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The National Association of Master Plumbers

Retrospect and Prospect

The careful observer, who has formed the habit of seeing in conventions of trade associations a symbol of movements toward perfection, finds something very inspiring in the thought that the National Association of Master Plumbers has held twenty-nine annual conventions and that its thirtieth annual meeting is now in progress at this writing. Each and every one of these annual gatherings have marked a step of progress in the history of the plumbing trade in the United States. The foundation for this splendid organization laid three decades ago was so solid and reliable that there is more truth than poetry in its motto, which in referring to its founders states, that "they builded better than they knew."

There is something exceedingly fascinating in a retrospect of these many associational gatherings, recalling to memory, as it does, the coming and going of the officers, every one of whom served or is serving the association and the trade looking to their welfare in a most unselfish manner. A review of their record as well as of the work performed by the members of the National and the local associations cannot but fill even the most narrow-minded and pessimistic with admiration and a hopeful view of the future of the plumbing trade.

The National Association of Master Plumbers has from a comparatively small beginning grown to a large and highly esteemed organization, and it has been a great power for good during its entire existence to this day. Its work in the past augurs well for the future. It has advanced the cause of sanitation in every city and hamlet in this country. It has done more to make cities and individual homes or buildings healthy and sanitary during these last thirty years than probably all other agencies put together. Its legislative committee has influenced legislation along modern sanitary lines in every state and territory in the Union. Its essay committee has done a noble work in preparing papers on up-to-date and sanitary plumbing as well as on business topics for the advancement of the trade, which have been published broadcast in the Association's Proceedings and in the trade press, and which have been read wherever the English language is understood. Its sanitary committee has also been a power for progress. From year to year it has done much for the spreading of the science of sanitation, its most epochmaking work being perhaps its report for the years 1907, 1908 and 1909, which was published in book form and became at once one of the highest authorities on the much discussed subject of sewer gas.

The National Association of Master Plumbers has accomplished these things, and it has met and solved many serious problems. This has all been done while the association was still in its youth or early manhood; it has now reached that age in which most men begin to do their best work, and its youth's great and good record gives an exceedingly bright promise for its future usefulness to society.

There are problems still to be solved, and this will be done in due season. The evil of subcontracting will soon be a thing of the past. The price-cutting foolishness has few, if any, followers in the association. The apprenticeship question will also meet a harmonious solution at the hands of the National Association of Master Plumbers, and it is safe to predict that this organization in its course of progress will meet all exigencies and solve all its problems in the future as it has in the past.

The benefits derived from membership in such a successful organization cannot be overestimated, and as it is always a satisfaction to assist any movement of progress, we do not know of anything better to say to those master plumbers, who are not yet members of this association, than this, that they should by all means join at once.

The Eleventh Annual Convention of the State Association of Master Plumbers of California

Held at Lake Tahoe, on June 24, 25 and 26, and Was One of the Most Successful and Delightful Gatherings Ever Held by This Energetic Association

The California Master Plumbers' Association held its eleventh state convention at Tahoe Tavern, Lake Tahoe, amidst the snow-capped Sierra Nevadas, on June 24, 25 and 26. This was one of the most successful gatherings of the kind held by the association in recent years, especially in regard to important matters brought up for discussion.

Delegates from all parts of the state, together with members of their families, numbering over two hundred and fifty, were in attendance, and as for the number of ladies, never has the state convention been more highly honored.

Most of the delegations were brought to Lake Tahoe by special train, or special cars, and the several committees having the transportaion in charge were rewarded for their good management by unanimous votes of thanks, of the ladies especially. There were, however, many delegates who made the trip in their automobiles, and one or two got "stalled" in the mountains at Emigrant Gap, an old historical "Days of old, the days of gold, the days of '49" mountain pass, but they managed to get to the convention on time. Notable among these auto parties was a large delegation from Sacramento, while G. E. Lock and son made the entire trip from Los Angeles to Tahoe and return by auto.

Aside from the business affairs disposed of, the convention was notable for the number and variety of social events and pleasure excursions. Outdoor games and sports were also indulged in by many of the delegates.

On Monday, at 10 a. m., more than two hundred and fifty delegates and their ladies assembled at the Casino, where State President Frank J. Klimm welcomed them in an opening address, which was followed by prayer offered by Rev. Father Arch, and by addresses from several prominent speakers whose remarks were interspersed by song and music.

These ceremonies concluded, the president gracefully dismissed the audience and the convention, after appointment of the various necessary committees, adjourned to meet in regular session in the afternoon.

Beginning with this, the convention proceeded to its regular business, and held regular sessions on Tuesday and Wednesday without interruption.

The reports of the various state officers showed that the numerous local associations are loyally vigorous, and that the state association is in a healthy, prosperous condition.

These facts were especially pleasing and encouraging to the delegates, who by a rising vote expressed their appreciation of the efforts rendered by the past administration.

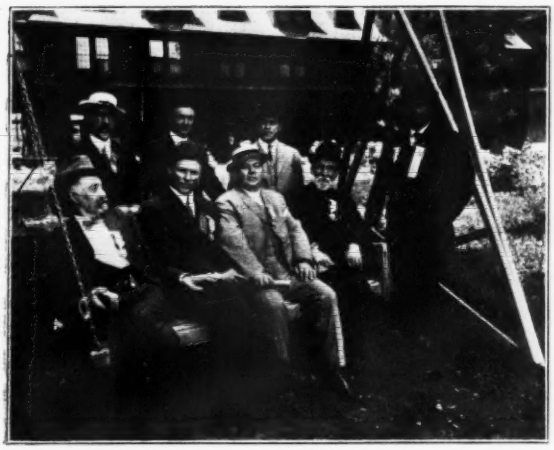
State President Frank J. Klimm's report covered many important matters pertaining to association affairs and presented suggestions which largely became questions for debate.

The suggestions submitted in the president's report, in the main, were not new subjects, but they were brought prominently to the front and represented the tendency of the times.

It is evident from the opinions expressed that the question of Credits and Discounts, as now applied by the plumbing supply houses and manufacturers is quite unsatisfactory to the master plumber as well as to a considerable element of the wholesalers and manufacturers themselves.

Having earnestly considered this question of Credits and Discounts, the convention expressed its conviction that a reform should be brought about upon the lines of

Delegates and Guests Attending the Eleventh Annual Convention



California State Executive Board. Back Row from Left to Right: J. Haverty, Los Angeles; John Cahill, Sacramento; William Rowe, Fresno. Front Row, Left to Right: J. L. E. Firmin, San Francisco; Frank J. Klimm, San Francisco; William F. Wilson, San Francisco; Chas. H. Julian, San Diego.

The Sacramento Scrappers. Johnny Cahill, State Vice-President Elect—Central Background Figure and First to Cast His Hat in the Ring.

a greater cash discount, and a conservative reformed system of opening and carrying credit accounts, and for the purpose of advancing these views the matter was referred to the incoming state executive board to take such steps as it may deem proper.

During a discussion it was set forth that the wholesalers of Los Angeles and vicinity, who are largely identified with those of the northern part of the state recently notified the southern master plumbers that they intended to reduce the present customary cash discount from 2 to 1 per cent. The convention voted a unanimous protest against the discount reduction, and indorsed an increase of discount from 2 to 4 per cent, or on that line.

The convention took the position that the conditions properly demanded a reform, but no positive lines were drawn, excepting that, good business policy especially on the part of the wholesale jobbers, prompts co-operation with the master plumber on this most important question.

The California State Hardware Dealers' Association, organized on a plan very similar to that of the master plumbers, recognizing that there are interests that may be better regulated by an exchange of views and sympathetic legislation, addressed an invitation to the convention to appoint a conference. This invitation was accepted and a resolution was passed authorizing F. J. Klimm and J. L. E. Firmin, of San Francisco, to confer with representatives of the Hardware Association with the view of ascertaining what would be the best interests of both associations, and report results to the incoming state executive board.

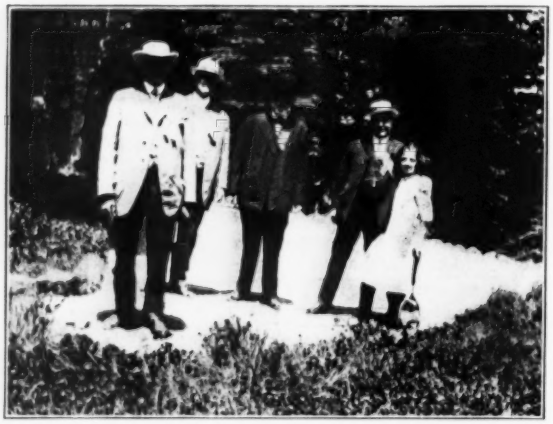
The matter of sub-contracts was thoroughly discussed and the idea of affiliating officially with the newly organized Contractors & Dealers' Association was gone into. Not having sufficient information at hand upon which to base an opinion relative to the advisability of affiliation, a committee was authorized to collect data and report in detail the advantages which would accrue by such a move.

The question of whether or not plumbers should be required to give a five years' guarantee of their work was discussed at length and resolutions were passed to the

of the State Association of Master Plumbers of California.

A Mixture of San Francisco and San Diego at Tahoe Convention.

end of having architects discontinue specifications wherein the plumbers are to guarantee their work for five years. The convention was of the opinion that this custom discriminated unfairly against the contractor, even if the



Left to Right: V. W. Guercio, Los Angeles; "Bob" Beattie, Los Angeles; "Billy" Wilson, San Francisco; "Frank" Klimm and Daughter Ethel, San Francisco.

goods were guaranteed by the manufacturer, since the plumber had to bear the expense of the alteration work.

The matter of plumbers handling plumbing goods to sell as merchandise was brought up for discussion and the

"Old Billy Wilson Is a Jolly Old Soul." Miss Wilson "Watching Her Dad."

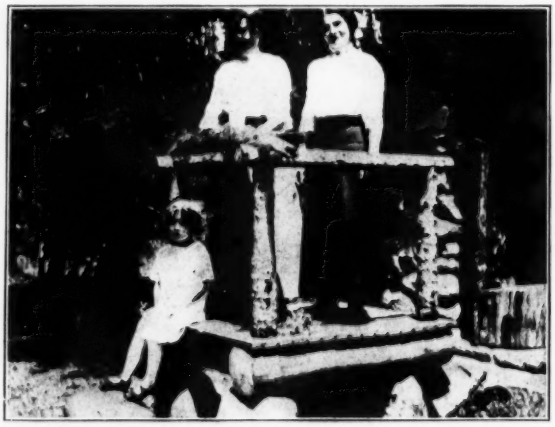
consensus of opinion was against this idea, for the reason that the custom not only restricted legitimate plumbing business but also resulted in poor sanitation. No binding regulation on this matter was adopted.

Many other matters were considered, among them the importance of co-operating with municipal officials in encouraging public sanitary improvements.

Mr. Haverty Objects to a Point in Mr. Klimm's Yellowstone Park "Bear Story." Frank J. Klimm, First to the Left; Chas. H. Julian, San Diego, Second to the Left; Wm. F. Wilson, San Francisco, Third to the Left; Wm. Rowe, Fresno; Thos. Haverty, Los Angeles, Holding up Finger, Sitting; E. W. Crowell, Los Angeles, Standing Behind T. Haverty; J. L. E. Firmin, San Francisco, Extreme Right; J. Cahill, Sacramento, Seated in Front.

Election of Officers.

The new officers elected for the ensuing year are as follows: Edward W. Crowell, Los Angeles, president; John Cahill, Sacramento, vice-president; William F. Wilson, San Francisco, treasurer; J. L. E. Firmin, San Fran-



"Little" Miss Rowe, of Fresno, The Convention Mascot.

cisco, secretary; V. N. Gurcio, Los Angeles, and A. J. McCarl, Oakland, assistant secretaries.

State executive board.—Thomas Haverty, Los Angeles; William Love, Fresno; F. L. Heilbrun, San Diego; F. J. Klimm, San Francisco.

E. W. Crowell, Los Angeles, Thomas Haverty, Los Angeles, and Alexander Coleman, San Francisco, were chosen state delegates to the national convention.

Lake Tahoe is an ideal place to hold a convention, but

it were idle to attempt to describe the beauty of its waters, the grandeur of its snow-capped mountains and the solemn grandeur of its groves, or the luxuriant and varied freshness of verdure.

Everybody took the all day trip around the lake, some seventy miles, stopping now at this charming spot, now at that, winding about little islands and coves at Tallac, all ashore for games and races.

Trip Around the Lake. Steamer "Tahoe" with its Cargo of 200 Master Plumbers and Ladies.

Then there were mountain trail tramps, fishing parties, champion fishermen, champion this, that and the other; receptions great and little, a grand ball, whist parties, beautiful prizes, but there, let the imagination run wild and picture one grand time enjoyed by all who attended.

It Couldn't be Done.

Somebody said that it couldn't be done,
But he with a chuckle replied,
That "maybe it couldn't," but he would be one
Who wouldn't say so till he'd tried.
So he buckled right in with the trace of a grin
On his face. If he worried he hid it.
He started to sing as he tackled the thing
That couldn't be done—and he did it!

Somebody scoffed: "Oh, you'll never do that—
At least no one ever has done it;"
But he took off his coat and he took off his hat,
And the first thing we knew he'd begun it.
With the lift of his chin and a bit of a grin,
Without any doubting or quiddit,
He started to sing as he tackled the thing
That couldn't be done and he did it!

There are thousands to tell you it cannot be done,
There are thousands to prophesy failure;
There are thousands to point out to you, one by one,
The dangers that wait to assail you.
But just buckle in with a bit of a grin,
Then take off your coat and go to it:
Just start in to sing as you tackle the thing
That "cannot be done"—and you'll do it.

—Toledo North Star

Rochester, N. Y.—Arensmeyer, Warnock, Zahrndt, Inc., has been incorporated with a capital of $10,000, to conduct a plumbing business. The incorporators are: John G. Arensmeyer, Henry Warnock and Louis F. Zahrndt, all of this city.

COLORADO ASSOCIATION MASTER PLUMBERS' ANNUAL CONVENTION.

Association Comprises Master Plumbers of Colorado, Idaho, New Mexico, Utah and Wyoming—Convention Held in Cheyenne.

Thirty-seven master plumbers representing an organization known as the Colorado Master Plumbers' Association, comprising the intermountain states of Colorado, Idaho, New Mexico, Utah and Wyoming, held the fifteenth annual convention of the association at Cheyenne, Wyo., on Friday and Saturday, July 12 and 13.

The program of the convention included many interesting and exciting events, such as are to be expected in a western town. All business transacted by the organization pertaining to trade relations and conditions were considered and discussed in executive session. Many matters of importance were thus brought before the association, which in succession will add to the usefulness of this organization.

The convention opened in executive session in Fraternal Hall, headquarters of the Cheyenne local association of master plumbers, at 2 o'clock on Friday afternoon, and was called to order by President Chris Irving, of Denver.

Proceeding to routine business Chairman Irving appointed the following committees:

Credentials:—Bert Ashley, Cheyenne; H. H. Wister, Colorado Springs; F. S. Cullyford, Denver.

Auditing:—A. S. Hubbell, Denver; Jett E. Nash, Cheyenne; W. A. Cody, Pueblo.

Sergeants-at-Arms:—Jos. Morrison, Cheyenne, and E. L. Coombs, Denver.

Resolutions:—N. W. Haas, Colorado Springs; P. S. Cook, Cheyenne; A. P. Gumlick, Denver.

Proceeding to the next order of business, President Irving read his annual report. This report was received with hearty applause from the delegates. The president's report was referred to the resolutions committee for action.

The report of the association secretary, Peter Menzier, of Denver, was one of the very encouraging and interesting features of the session. The report showed the delegates the consistency with which the association has gained in membership and importance.

Treasurer A. P. Gumlick, of Denver, read his annual report, which presented the association in a flourishing financial condition. The report was referred to the auditing committee for consideration.

As a culmination of the idea of the organization's usefulness to the trade, various discussions of trade topics occupied the attention of the delegates until adjournment was taken at five o'clock.

* * *

The entertainment committee of the Cheyenne local association included those genial westerners, P. S. Cook, Jett E. Nash, James Morrison, W. W. Keefe, John Hague and B. F. Ashley, and these gentlemen gave their services to the entertainment of the delegates in a way that will long be remembered in the intermountain master plumbers' organization. The first features of the entertainment program on Friday evening included theater parties and in these parties was sounded the keynote of Cheyenne hospitality.

On Saturday morning, at 9:30 o'clock, the convention reconvened in executive session. This session opened with an indorsement of President Chris Irving, of Denver, for vice-president of the National Association of Master Plumbers

and Mr. Irving's name will be presented to the Salt Lake City convention as a candidate for vice-president with the undivided support of western delegates.

The business of the convention was concluded at this session with the election of officers, as follows:

President, N. W. Haas, Colorado Springs; vice-president, A. P. Gumlick, Denver; treasurer, J. F. Wallace, Denver; sergeant-at-arms, H. H. Wister, Colorado Springs; acting secretary, Peter Menzies, Denver.

The association's secretary will be appointed by President-elect Haas at a meeting of the executive committee to be held in Denver.

Delegates to National Association convention: W. S. Higham, of Salt Lake City; J. E. Nash, of Cheyenne, and G. E. Smith, of Denver.

On Saturday afternoon the delegates were entertained with an automobile tour of the city of Cheyenne and Laramie county. This tour started from convention headquarters at the Plains Hotel and visits were made to Cheyenne's new $1,000,000 water works and Fort Russell. The inspection of the water supply system of Cheyenne proved to be one of the most interesting incidents of the trip.

Greeley, Colo.: Wm. Ecker, D. R. McArthur, John Hall, J. D. Potter.

Pueblo, Colo.: W. A. Coday, Chas. Geiser.

Sterling, Colo.: Wm. J. Forster.

Salt Lake City, Utah: Frank D. Carthey, Frank Davidson, W. S. Higham.

Cheyenne, Wyo.: P. S. Cook, Bert Ashley, John Hague, W. W. Keefe, Jas. Morrison, Jett E. Nash.

BI-MONTHLY MEETING OF THE SOUTHERN WISCONSIN MASTER PLUMBERS' CLUB.

The Southern Wisconsin Master Plumbers' Benevolent and Sanitary Club held its regular bi-monthly meeting in Watertown, Wis., on Tuesday, July 9th, with a good attendance, about thirty members being present. President Wm. McVicker, of Janesville, called the meeting to order and an address of welcome was delivered by Mayor Grube. The meeting was a very interesting one, subjects of sanitation, benevolence, city ordinance and laws governing plumbing were discussed and all present pronounced the meeting of great benefit. The next meeting will be held at Madison, Wis., and the families of the members are also expected and invited to be present at a picnic that will be a feature of that meeting.

Delegates Attending a Recent Meeting of the Southern Wisconsin Master Plumbers' Benevolent and Sanitary Club, Held at Watertown, Wis.

A banquet at the Plains Hotel in the evening concluded the entertainment events and also concluded the convention program. P. S. Cook, of Cheyenne, presided as toastmaster at the banquet and several delegates made impromptu after-dinner speeches. The principal feature of the banquet was the presentation of a handsome loving cup to retiring-President Chris. Irving. The presentation speech was made by President-elect Haas.

Among Those Present Were:

Colorado Springs: John Argust, D. P. Flatt, N. W. Haas, Thos. McCarthy, J. T. Mills, J. J. Callison, J. C. St. John, W. B. St. John, L. M. Trautman, W. W. Wister.

Denver: E. L. Coombs, W. T. Crean, F. S. Cullyford, A. J. Gumlick, A. S. Hubbel, Chris. Irving, M. Kirschstein, Harry De Gasslick, Geo. E. Smith, John Wallace, W. O. Warlum.

How Should the Journeyman and Helper Be Dressed?

Should the journeyman and his helper be dressed in their best "Sunday-go-to-meeting" when on a job? A story we heard the other day makes us think it advisable.

O'Brian, the plumber, was sent to a millionaire's palatial home, to try to find a leak.

As he entered the front hall, the butler whispered to O'Brian:

"You are requested to be careful of the hardwood floors as you go upstairs; they've just been polished."

"Sure, there's no danger av me slippin' on thim," O'Brian replied. "Oi hov spikes in me shoes."—"Sanitary Pottery."

Analysis of the Principal Provisions of the Plumbing Codes of Thirty-seven of the Principal Cities in the United States

By Thomas S. Ainge, Sanitary Engineer, Lansing, Michigan

(*Continued from July 13th Issue*)

PLUMBING FIXTURES IN GENERAL, OTHER THAN WATER CLOSETS.

As may be seen by reference to the accompanying exhibit, with the exception of water closets and, possibly, urinals, specifications in the codes relative to the nature and quality of plumbing fixtures in general are very meagre. This may be accounted for partly by the fact that, as a rule, the nature and quality of the fixtures which have been introduced in recent years have been such as would meet the approval of the departments which have jurisdiction over plumbing work, and by the further fact that quite a number of the codes contain specifications relative to one or more types of fixtures which may not be used. It would be well, however, to insert in every code a requirement, such as is contained in the Syracuse code, that all fixtures shall be of non-absorbent, non-corrosive material and have smooth interior surfaces.

Prohibited Fixtures.—The specifications relative to plumbing fixtures, other than water closets, which may not be used have reference, principally, to wooden sinks, wash trays, laundry tubs and metal lined bath tubs; but many of the codes which prohibit the general use of such fixtures permit their use under certain conditions, notably in the case of sinks. Wooden wash trays are prohibited in forty-five per cent of the codes, wooden sinks in forty-two per cent, wooden metal lined bath tubs in eighteen per cent, and wooden laundry tubs in twenty-one per cent. In two codes, all wooden fixtures are prohibited, conditionally.

In view of the unsanitary character of wooden plumbing fixtures, with the exception of special metal lined sinks for the washing of dishes and glassware, their further use should be prohibited in every locality.

Wastes From Safes and Drip Trays Under Fixtures, Etc.

General Arrangement.—As a rule, the use of a safe under any of the modern plumbing fixtures is unnecessary; but where such a precaution may be considered necessary for the protection of ceilings or walls against accidental leakage or overflow, the general arrangement of the waste pipes should be such that they cannot become a source of nuisance or a danger to health. It is certain that they should not have direct connection with any part of the sewerage system, and this is prohibited in twenty-one of the codes under consideration. It is also certain that such waste pipes should not discharge at any point where a damp or unwholesome condition would be created thereby, nevertheless, two of the codes permit of their discharge upon the cellar floor and two outside of the building, but, in one of the latter, the proviso is made that a nuisance be not created thereby.

Conspicuousness.—As the waste pipes from a safe, particularly where the latter is concealed from view, should act as a tell tale of possible leaks, the outlet should always be in plain sight, and this arrangement is definitely specified in nine of the codes, and probably intended to be covered by the specifications of fifteen other codes.

Indirect Connection with Sewer.—In twelve codes, the specifications, very properly, require the waste pipes from safes and drips to discharge over open sinks or other fixtures, but, in nine of these, nothing is found relative to the traping of such sinks or fixtures and, in ten, nothing relative to the venting of such traps. As the waste water which would, ordinarily, be expected to be discharged from such pipes could not be depended upon alone to protect the seals of the traps of the fixtures into which they discharge against reduction by evaporation, the specifications relative to the termination of such pipes should include a water supply or other means for preserving the water seals of the traps. This is done in but six of the codes, in two of which it is specified that the sinks selected for this purpose be such as are in general use.

Flap Valves.—Not being provided with traps, and terminating in places where the air would, usually, be of doubtful quality, unless provided with flap valves at the outlets, the waste pipes of safes would be very likely to act as channels for the passage to the rooms in which the safes might be located of vitiated and, possibly, foul smelling air, nevertheless, the provision of flap valves in connection with such pipes is specified in but six of the codes. In a lesser degree, the passage of air from one part of a building to another through waste pipes of this class would be undesirable, and this was probably the reason for the insertion in one of the codes of a clause which prohibits the connection of the safe wastes on one floor with those of another floor.

Cleanouts, Etc.—The provision of cleanouts at the angles of the waste pipes from safes would not, ordinarily, be necessary, nevertheless, this requirement is contained in one of the codes, together with the requirement that the arrangement of the pipes be such as to permit of flushing.

Sizes.—The sizes of waste pipes from safes is specified in but two of the codes and, as in many other specifications in the codes relative to the sizes of pipes, etc., there is a lack of uniformity in these specifications, one code prescribing a minimum of 1 in. and the other a minimum of 1½ in.

Wastes from Refrigerators and Other Receptacles for the Storage of Food.

What has been said in regard to the disconnection of the waste pipes from safes and drips may also be applied to the wastes from refrigerators, etc., and the sepcifications in the codes relative to the disconnection of both classes of wastes are, in the main, somewhat similar.

Direct Connection with Sewer Prohibited.—In twenty-five codes, the direct connection of the wastes from refrigerators, etc., with any part of the sewerage system is definitely prohibited; and, although not definitely stated, the specifications in several other codes relative to the treatment of such wastes prohibit such direct connection.

EXHIBIT X—PLUMBING FIXTURES AND ACCESSORIES

LIST OF THE CITIES AND THEIR INDEX NUMBERS.

Every number in this exhibit in bold-faced type stands for a city and shows that the specification after which it appears applies in that city. Thus, 4 stands for Chicago; 31 for Syracuse; and so on.

1. Baltimore, Md.
2. Boston, Mass.
3. Buffalo, N. Y.
4. Chicago, Ill.
5. Denver, Colo.
6. Detroit, Mich.
7. Fall River, Mass.
8. Indianapolis, Ind.
9. Jersey City, N. J.
10. Kansas City, Mo.
11. Los Angeles, Cal.
12. Louisville, Ky.
13. Memphis, Tenn.
14. Milwaukee, Wis.
15. Minneapolis, Minn.
16. Newark, N. J.
17. New Haven, Conn.
18. New Orleans, La.
19. New York, N. Y.
20. Ohio State Building Code, governing the cities of Cincinnati, Cleveland, Columbus and Toledo, O.
21. Omaha, Neb.
22. Paterson, N. J.
23. Pennsylvania State Plumbing Code, governing the cities of Pittsburg and Scranton, Pa.
24. Philadelphia, Pa.
25. Providence, R. I.
26. Rochester, N. Y.
27. St. Joseph, Mo.
28. St. Louis, Mo.
29. St. Paul, Minn.
30. San Francisco, Cal.
31. Syracuse, N. Y.
32. Washington, D. C.
33 Worcester, Mass.

Open Plumbing.

Specified for all fixtures.—**4-9-13-15-18-20-23-24-26-27-31-33.**
Specified for water closets in general and for sinks in tenements and lodging houses.—**29.**
Specified for water closets in general and for sinks in lodging houses only.—**19.**
Specified for water closets in general and for all fixtures in tenements and lodging houses.—**16-22.**
Specified for water closets only.—**21-28.**
Specified for bath tubs only.—**30-32.**
Specified for water closets in tenements only.—**2-3.**
Specified for outdoor closets only.—**17.**

Water Closets.

Prohibited locations:

Sleeping apartments.—**1-24-25-32.**
Living rooms.—**32.**
Any room in which food is prepared for human consumption.—**24.**
Any room, except in prisons, used for other than toilet purposes.—**26.**
Any room or compartment, in the interior of a residence or dwelling house, the door of which opens other than into a hall.—**13.**
Any room, apartment or compartment which has not direct communication with the external air by a window or air shaft of dimensions specified in the codes.—**1-7-9-15-24-26-31-32.**
An unventilated room or compartment.—**4-5-12-16-18-22-25-27-30.**
An unventilated room or compartment, unless the fixtures are properly local vented.—**13-15.**
Enclosures not adequately ventilated to the outer air by a window or suitable light shaft.—**2.**
Any room or compartment which does not contain a window in an external wall, unless the same is provided with a system of ventilation which will change the air, at a normal temperature, at least six times per hour.—**20.**
Any room or compartment which does not have communication with the outer air by a window, or by an air shaft or duct which is not used for ventilating any habitable room or compartment.—**6.**
An unventilated or poorly lighted apartment.—**19-29.**
An apartment not well ventilated by an external window of "suitable" dimensions, or by a "suitable" light and ventilation shaft.—**33.**
General water closet accommodation in the cellar or basement of a tenement or lodging house.—**9-16-19-22-24.**
Cellar of tenement, except by special permission.—**2-3.**
Water closet system of tenements or lodging houses under sidewalks.—**23.**
A compartment in the cellar or basement of a building which is not "sufficiently" lighted and ventilated.—**15.**
A cellar or basement where there is danger of overflow from the public sewer.—**13.**
Outside of a building.—**19.**
In yard of new building, or within eight feet of existing building.—**4.**
A porch or other like place.—**4.**
A porch, or any other location where the soil pipe cannot be protected from frost.—**32.**
Any vault, bay, oriel, tower, or other projection beyond the building line, except in the remodeling of buildings already constructed, and then only where absolutely necessary and special permission is obtained.—**32.**
Public water closets in any place where they would be a source of nuisance.—**3.**

Prohibited fixtures:

Pan closets.—**1-3-4-6-8-9-12a-14-15-16-17-18-19-21-24-25-26-27-28-29-30-31-32-33.**
Plunger closets.—**1-3-4-6-8-9-11-14-15-16-18-19-20-21-22-23-24-26-27-29-31-32-33.**
Hopper closets (not otherwise specified).—**3b-12a-14c-17d-23-24d-26e-27-30f-32.**
Long hopper closets.—**4g-18-19e-20h-21d-24d-29.**
Long straight hopper closets.—**1d.**
Tall hopper closets.—**9d.**
Flush rim hopper closets.—**30d.**
Long flushing rim hopper closets.—**13.**
Long oval or straight back hopper closets.—**1d-6e-15f.**
Straight or oval bowl hopper closets.—**32e.i.**
Long cast iron hopper closets.—**16e-22e.**
Offset hopper closets.—**1.**
Pipe supplied bowls and hopper.—**9-19.**
Hopper closets without flush tank.—**10.**
Philadelphia hopper closets.—**11-13.**
Whirlpool closets.—**15.**
Prison closets.—**3.**
Iron closets.—**9-32m.**
Pressed steel or enameled iron or steel closets.—**32m.**
Self-acting valve closets.—**17d.**
Offset closets.—**4-6-14-16-22-30d-32.**
Offset washout closets.—**9-19-20-24-25i.**
Washout closets.—**18-26-27-30d-32.**
Porous receiver closets.—**30.**
Valve closets.—**9-19-24-30-31-32.**
Two-piece closets.—**32.**
Swing seat closets.—**10.**
Plug closets.—**30.**
Closets with vent horn in trap.—**32.**
Trough closets.—**6-9i-15-19h.i-24d-26-27d-31-32.**
Latrine closets.—**6-10-13i-15-19h.i-24d-26-27d-29-31-32.**
Washout latrine closets.—**4.**
Latrine trough closets.—**16i-22h.i.**
Range closets.—**13i-21-23d-24d.**
Washout range closets.—**4j.**
Syphon eduction-range closets.—**9.**
Automatic range closets.—**26-31.**
Series of closets flushed from a single tank.—**32.**
Those closets, except in the case of latrines, having invisible seals or an unventilated space, or the walls of which are not thoroughly washed at each discharge.—**20.**
Those which have an unventilated space, or the walls of which are not thoroughly washed at each flush.—**9-18-19-24-28.**

Those in which the walls are not flushed with each discharge.—**21.**
Those having any mechanism in connection with the trap and bowl, forming a mechanical seal.—**13.**
Those in which either the discharge or the maintenance of the seal depends upon a mechanical movement.—**31.**
Those in which the venting, back venting, or local venting is to be made otherwise than in the code prescribed.—**20.**
Those in which the soil comes in contact with any part of the metallic parts of same.—**12.**
Those in which the water supply is direct from the street service.—**11k-18-21.**
Frost proof closets in compartments which have direct connection with any building used for human habitation or occupancy.—**20.**
Privy sink pan closets.—**13.**
Dry closets.—**10-20.**
Smead system closets.—**6-15-31h.**
Evaporating system of closets.—**23.**

Floor connection:

Brass floor flange, not less than ⅛ in. thick, to be used.—**13.**
Brass floor flange, not less than ¼ in. thick, to be used.—**1-4-21-24-32.**
Brass floor flange, not less than $\frac{3}{16}$ in. thick, to be used.—**10-18-20.**
Brass floor flange specified, but thickness not given.—**2n-5-9n-19n-22n-23n-25-27n-29n-30-33.**
Brass floor flange to be attached to soil pipes connection:
By solder.—**1-2-4-9-10-13-18-19-20-21-22-23-24-25-27-29-33.**
By screw joint.—**1-4-9-19-20.**
By calked joint.—**4.**
Brass floor flange to be screwed or otherwise fastened to floor.—**20-21-24.**
Brass floor flange to be bolted to closet bowl.—**1-2-4-9-10-13-18-19-20-21-22-23-24-25-29-32.**
Approved adjustable threaded floor connection permitted.—**30.**
Approved combination iron or brass bend and floor flange permitted.—**18.**
Lead or brass connection or proper flange at the floor joint specified.—**26.**
In wooden joist construction, lead pipe or bend to be used between closet and soil pipe.—**20.**
Material for making the joint between the floor flange and the closet bowl:
Mixture of red and white lead.—**1-2-24.**
Red or white lead.—**20.**
White lead and whiting.—**10.**
White lead putty.—**18-22.**
Hydraulic cement.—**9.**
Asbestos graphite ring or asbestos string gasket.—**20.**
Rubber gasket.—**5-18-21-27.**
Pure rubber gasket, ¼ in. thick, ¾ in. wide and having ⅛ in. corrugations.—**24.**
"Washer."—**20.**
Approved compound or gasket.—**21-24-27-32.**
Any material that will insure a tight joint.—**5.**
Materials which are prohibited for the jointing of the floor flange to the closet bowl:
Rubber washers.—**2-4-19-22.**
Leather washers.—**4.**
Red or white lead.—**190.**
Putty.—**4-29.**
Cement.—**4.**
Plaster.—**4-29-30o.**

Flushing apparatus:

Closet bowls to have flushing rims.—**1-4-9-19-23-24-32.**
Direct supply not permitted.—**4-11s-13t-18-19-20r-21-23s.x-24-25w.**
Capacity of flush tank to be not less than:
Three gallons.—**15-26.**
Four gallons.—**4a-11-20.**
Five gallons.—**1-7-9-13-23v-24v.**
Six gallons.—**18-23-32p.**
Seven gallons.—**27.**
Eight gallons.—**24.**
Ten gallons.—**14u.**
Flush tank to be used for no other purpose.—**9-16-17-22-32-33.**
Flushometer valves permitted.—**1-4q-11-19q-27w-30-32w.y.**
Specified minimum diameter of flush pipes:
1 in.—**25.**
1¼ in.—**1-2-3-4-5-7-8-9-15-16-19-20-22-23-24-26-27-28-29-30-32.**
2 in.—**15z.**
Iron flush tanks prohibited.—**9-16-19-22-24.**
Automatic flush tanks prohibited.—**16-19.**
Where pressure is not sufficient for proper flushing, supply tanks or cisterns and pumps may be ordered.—**1-4-9-11-16-19-22-26-28-32.**
Purity of water for flushing to be equal to that of the city water.—**4.**
Latrines or range closets to have flushing rims, or other means of adequately flushing the front and rear inside surfaces, and to have automatic dumping tanks which shall discharge not less than ten gallons of water at each discharge not more than ten minutes apart, except in the case of school buildings when the discharge must take place at least every three minutes during recess periods.—**20.**

Local ventilation:

Local vents to be connected direct to a separate line of vent pipe, or glazed tile lined pipe, provided for this purpose only, and not to be connected with any part of the plumbing system.—**9.**
Local vents may be connected with hot air stacks in which there is continual circulation, but not with smoke flues.—**12.**
Local vents permitted where it is impracticable to ventilate closet apartments by means of windows, the piping for which must be not less than forty square inches in area.—**15.**
Every closet to have a local vent, made of copper, cast iron, or galvanized iron, of the following sizes: One closet, not less than 2 in. diameter; two to four closets, not less than 3 in. diameter; more than four closets, such increased diameter as may be directed. Vents to be carried upward and into a heated flue provided for the purpose, or into a kitchen chimney, or in such other manner as may be directed.—**17.**
Local vents to enter a heated flue above openings, or be extended separately above the roof. Size of vents to be as follows: For one closet, 2-in. pipe; for two to four closets, not less than 3-in. main pipe.—**18.**
Local vent to be of galvanized sheet iron or sheet copper, and to be of the following sizes: For one closet, not less than 3 sq. in. in area, and for a number of closets at least 3 sq. in. in area for each fixture. Vents to be connected with a heated flue above the highest opening.—**26.**
Closets to have approved local vents.—**32.**
Local vents to be separate, made of copper, galvanized iron or cast iron, not less than 2 in. in diameter, attached to the vent horn above the seat if possible, and carried upward and into a heated flue; but, if this is not possible, they are to be connected with the kitchen chimney above the highest opening into same. For two or three closets the main vent must be not less than 3 in. in diameter, and for a greater number, a proportionately increased diameter.—**33.**
Local vents to be of the sizes shown in the following table:

Size of pipe.	Maximum developed length in feet. Mains.	Number of closets vented. Branches.	Main vertical part.
2″	40	1	1
3″	100	3	6
4″	150	6	12
5″	200	10	20
6″	250	16	32
7″	300	23	46
8″	350	32	64
9″	400	42	84
10″	450	56	112
11″	500	72	144
12″	550	90	180

The dimensions given refer to the inside diameter of pipe.
Where the number of fixtures exceeds the limit of the table, sizes and lengths shall be increased in corresponding ratio.—**20.**

Plumbing Fixtures in General, Other Than Water Closets.

Bath tubs:

Must be of approved make.—**32.**
To be of glazed earthenware or enameled iron.—**27.**

EXHIBIT X—PLUMBING FIXTURES AND ACCESSORIES—Continued

LIST OF THE CITIES AND THEIR INDEX NUMBERS.

Every number in this exhibit in bold-faced type stands for a city and shows that the specification after which it appears applies in that city. Thus, 4 stands for Chicago; 31 for Syracuse; and so on.

1. Baltimore, Md.
2. Boston, Mass.
3. Buffalo, N. Y.
4. Chicago, Ill.
5. Denver, Colo.
6. Detroit, Mich.
7. Fall River, Mass.
8. Indianapolis, Ind.
9. Jersey City, N. J.
10. Kansas City, Mo.
11. Los Angeles, Cal.
12. Louisville, Ky.
13. Memphis, Tenn.
14. Milwaukee, Wis.
15. Minneapolis, Minn.
16. Newark, N. J.
17. New Haven, Conn.
18. New Orleans, La.
19. New York, N. Y.
20. Ohio State Building Code, governing the cities of Cincinnati, Cleveland, Columbus and Toledo, O.
21. Omaha, Neb.
22. Paterson, N. J.
23. Pennsylvania State Plumbing Code, governing the cities of Pittsburg and Scranton, Pa.
24. Philadelphia, Pa.
25. Providence, R. I.
26. Rochester, N. Y.
27. St. Joseph, Mo.
28. St. Louis, Mo.
29. St. Paul, Minn.
30. San Francisco, Cal.
31. Syracuse, N. Y.
32. Washington, D. C.
33. Worcester, Mass.

Lavatories:
To be of glazed earthenware, enameled iron, or marble.—**27.**

Laundry tubs:
To be of glazed earthenware, enameled iron, or slate.—**27.**

Urinals:
To be of non-absorbent and non-corrosive materials.—**9-10h'-16-19-20-22-23-29.**
To be of non-absorbent materials.—**4.**
To be of enameled iron trough, or glazed earthenware.—**27.**
Earthenware urinals to have slate, marble, glass, or sheet lead back and side partition walls.—**27.**
Not to be made of cast iron or galvanized iron.—**5.**
Galvanized slop hopper or trough allowed.—**18.**
Flush tank to have a capacity of 1 gallon.—**30.**
Flush tank to have a capacity of 3 gallons.—**1.**
Flush tank to have intermittent and automatic discharge, at intervals of not more than seven minutes each.—**4.**
Flush pipes to be not less than 1 in. in diameter.—**1-9-29.**
Flush pipes to be "sufficiently large."—**30.**
To have approved local vents.—**32.**

All fixtures:
To be of nonabsorbent, non-corrosive material and have smooth interior surfaces.—**31.**

Prohibited fixtures:
Wooden fixtures (Not otherwise specified).—**26y'.**
Wooden wash trays.—**1-2-7e'-8g'-9-11i'-16-18-20c'-21r'-23e'-28-30y'-32-33.**
Wooden sinks.—**1a'-4c'-7e'-8g'-11i'-18-20c'-21r'-23e'-27a'-28-30y'-32b"-33.**
Wooden metal lined bath tubs.—**20-23e'-24v'-27x'-30-32.**
Wooden laundry tubs.—**3-4c'-15-19p'-23p'-24-27x'.**
Other fixtures encased in wood.—**18n'.**

Wastes from Safes and Drip Trays Under Fixtures, Etc.

General arrangement:
Not to have direct connection with any part of the sewerage system.—**1-2-4-5-7d'-8-9-11-13-14-15-18-19-22-23-24-25-26-27-28-29.**
May discharge on cellar floor.—**16-22.**
May discharge upon the yard outside, but not so as to create a nuisance.—**18.**
May discharge outside of building.

Conspicuousness:
To discharge in plain sight.—**2-5-7-8-24-25-27-28-29.**

Indirect connection with sewer:
To be satisfactorily and indirectly connected.—**30.**
To discharge into an open sink or other fixture.—**4-13-14k'-15-16-18-19-22-23-24-26-32a".**
Open sink, etc., to be not more than 3½ feet above cellar floor.—**23.**
Open sink, etc., to be publicly placed and ordinarily used.—**19-23.**
Open sink, etc., to be properly trapped.—**13-15-32.**
Trap of open sink, etc., to be properly vented.—**13-32.**
Open sink, etc., to be water supplied.—**4-18-19-23.**

Flap Valves:
To have flap valves at the lower end.—**4-8-18-19-23-24.**
Not to be connected with wastes from other floors.—**18.**

Cleanouts:
To be provided with cleanouts at angles.—**13.**
To be arranged so as to permit of flushing.—**13.**

Sizes:
To be not less than 1½ in. for each opening, and for two to six openings, not less than 2 in. in diameter.—**13.**
To be not less than 1 in. in diameter.—**30.**

Wastes from Refrigerators and Other Receptacles for the Storage of Food.

Direct connection with sewer prohibited:
Wastes not to have direct connection with any part of the sewerage system.—**1-2-3-4-5-6-8f'-9-11j'-12-13-14-15-16-18-20-21-22-24-25-26-27f'-28j'-30-33j'.**

Disconnection from refrigerator:
Wastes to be disconnected from refrigerator by open tray or otherwise.—**3-4-5-6-8-10-11-14-17-18-21-27-28-33.**

Trapping:
Wastes to be trapped at some point not specified.—**15-17-24.**
Wastes to be trapped on the branch.—**2b'.**
Wastes to be trapped near to the refrigerator.—**4-10-13-18-l'-m'.**
Wastes to be trapped at the lower end.—**21-23.**

Flap Valves:
Wastes to have flap valves at the lower end.—**8-19o'-23o'.**

Improper methods of discharge:
Wastes may discharge outside of building.—**11-26w'.**
Wastes may not discharge on the ground or floor.—**4-8e'-15-16-19-22-23-25e'-27e'.**

Indirect connection with sewer:
Wastes may discharge over portable pan.—**23.**
Wastes may be connected with drainage system when disconnected from refrigerator by a tray and properly trapped with combination or flap trap.—**5.**
Wastes to discharge over a deep seal trap.—**4.**
Wastes to discharge into anti-siphon trap, with funnel shaped receiver, and a plug or gate valve so that the opening may be closed when not in use.—**26.**
Wastes may discharge into a common trap, not less than 3 in. in diameter, with funnel shaped receiver and constantly water supplied or receiving the water from a roof.—**26.**
Wastes to be indirectly connected in approved manner.—**30.**
Wastes to discharge into a funnel connected to a back pressure trap properly ventilated.—**14.**
Wastes to discharge over an open sink or other fixture.—**3-4-6-8-9-11-12-13-14-15-17-19g'-20-21s'.c"-22-23g'-24-26-27-32a".**
Open sink, etc., to be properly trapped.—**6-12-13-15-19-20-22-23-24-27-32.**

Trap of open sink, etc., to be properly vented.—**13-20-32.**
Open sink, etc., to be water supplied.—**4-6-9-11-12-19-22-23-24-33.**
Sizes:
Wastes to be not less than 1½ in. for one opening and for two to six openings, 2 in.—**13.**
Wastes to be not larger than 1½ in., with 1¼ in. branches, in tenements and lodging houses.—**23.**
Wastes to be 2 in. throughout.—**10.**
Cleanouts, etc.:
Wastes to have cleanouts at angles.—**10-13-19-23.**
Wastes to be arranged so as to permit of flushing.—**3-13-14-24.**
Wastes to be as short as possible.—**3-4-14-24.**
Ventilation:
Wastes to be extended through roof:
In every case.—**9-20.**
When serving refrigerators on two or more floors.—**2-4-6.**
When serving two or more refrigerators on the first floor, or any refrigerator above the first floor.—**10.**
In tenements.—**23.**
In lodging houses.—**19-23.**

Overflow and Discharge Pipes from Supply Tanks and Cisterns.

Conspicuousness of overflow:
To be in plain sight wherever possible.—**2-7-8-19-24-25-28-29.**
Direct connection with sewer prohibited:
Not to be directly connected with any part of the sewerage system.—**2-4-7d'-8f'-9-12-15-19-20-22-24-25-26-28-29.**
Indirect connection with sewer:
To discharge on the roof whenever possible.—**4-9-16-19-20-22-24.**
To discharge into roof gutter.—**26.**
To discharge over an open sink or other fixture.—**4-9-12-15-16-19q'-20-22-24u'-26-32a'.**
Open sink, etc., to be trapped.—**15-16-24-32.**
Trap of open sink, etc., to be vented.—**32.**
Open sink, etc., to be water supplied.—**19-22-24.**
Open sink, etc., to be not more than 3½ feet above the floor.—**19.**
Trapping:
Pipe to be trapped at some point not specified.—**4-19-20.**
Flap Valves:
Pipe to have flap valve at the lower end.—**8.**

Waste Pipes from Soda Fountains.

Direct connection with sewer prohibited:
Not to be directly connected with any part of the sewerage system.—**10-13-18-24-32.**
Indirect connection with Sewer:
To discharge over proper vented trap above floor line, or, if trap is 3 in. or larger, a deep seal trap may be used without the vent.—**32.**
To discharge into an open sink or other fixtures.—**13-18-24.**
Open sink, etc., to be properly trapped.—**13-24.**
Trap of open sink, etc., to be properly vented.—**13.**
Size:
To be not less than 1½ in. for one opening, and for two to six openings, 2 in. in diameter.—**13.**
Cleanouts, etc.:
To have cleanouts at angles.—**13.**
To be arranged so as to permit of flushing.—**13.**
To be as short as possible.—**32.**

Waste Pipes from Bar Fixtures.

Direct connection with sewer prohibited:
Not to be directly connected with any part of the sewerage system.—**13-18-32.**
Indirect connection with sewer:
To discharge over proper vented trap above floor line, or, if trap is 3 in. or larger, a deep seal trap may be used without the vent.—**32.**
To discharge into an open sink or other fixture.—**13-18.**
Open sink, etc., to be properly trapped.—**13.**
Trap of open sink, etc., to be properly vented.—**13.**
Size:
To be not less than 1½ in. for one opening, and for two to six openings, 2 in. in diameter.—**13.**
Cleanouts, etc.:
To have cleanouts at angles.—**13.**
To be arranged so as to permit of flushing.—**13.**
To be as short as possible.—**32.**

Waste Pipes from Vats.

To have an open receptacle between them and the house drain.—**10.**

Waste Pipes from Drinking Fountains; Vats and Sterilizers in Creameries; Wash Trays and Washing Machines in Public Laundries; and Fixtures in Dye-Houses and Similar Establishments.

To drain into an open and properly trapped fixture.—**15.**

Waste Pipes from Water Filters.

Direct connection with sewer prohibited:
Not to be directly connected with any part of the sewerage system.—**24-30.**
Indirect connection with sewer:
To discharge over an open sink properly trapped.—**24.**
To be indirectly connected in an approved manner.—**30.**

Waste Pipes from Gas Engines, Air Compressors, or Vacuum Cleaners.

Not to be directly connected with any part of the sewerage system, but must discharge over an open sink properly trapped.—**24.**

Sediment Pipes of House Boilers.

Direct connection with sewer prohibited:
Not to have direct connection with any part of the sewer system.—**4-5-9-16-22-27.**
Not to be connected on the sewer side of any trap.—**4-23.**
Indirect connection with sewer:
To discharge over properly trapped and vented sink or other fixture, or into a pail or other receptacle.—**9.**

Grease Traps.

To be provided for:
Kitchen sinks, the location of which is not designated.—**4-20.**
Kitchen sinks in dwelling houses.—**5.**
Kitchen sinks in hotels and restaurants.—**2-5-13-17-18-28-29-31-32-33.**
Kitchen sinks in eating houses.—**2-17-28-33.**
Kitchen sinks in mess rooms.—**32.**
Sinks in tenements.—**13.**
Sinks in boarding houses.—**13-31.**
Sinks in factories.—**13.**
Public cooking establishments.—**2-5-17-28-29-33.**
All places where a large amount of cooking is done.—**13-18.**
Dish washing machines in hotels, restaurants, or mess room kitchen.—**32.**
Sewers from packing houses, lard rendering establishments, butcher shops and laundries.—**31.**
Every building from which, in the opinion of the Superintendent of Sewers, grease may be discharged in such quantity as to clog or injure the sewer.—**2.**
Any place where deemed necessary.—**26.**

Footnotes to Exhibit.

a. Where trap is under floor.
b. Permitted with flushing tank and rim.
c. Above the basement floor, unless provided with a tank supply.
d. Permitted in outside buildings under certain restrictions.
e. Permitted only where there is danger from frost.
f. Permitted for anti-freezing closet when provided with flushing rim.
g. Except in cellar or unfinished basement of existing building.
h. And similar appliances.
i. By special permission only.
j. Approved range closets permitted in factories and workshops.
k. Except where approved flushometer valve is used.
l. In schools and other public institutions, certain closets, not specified, may be used on approval.
m. For interior use.
n. Specified as "Heavy."
o. Or any similar substance.
p. Siphon discharge.
q. Not directly connected to city water supply.
r. Except in case of anti-freezing closets.
s. Flushometer valve supply permitted.
t. Except where located away from building.
u. For closets located above the basement.
v. For automatic tanks.
w. Upon approval or by special permission only.
x. For yard closets and where volumeters are used.
y. Not to be used for any other purpose.
z. For low down closets.
a'. Wooden troughs or sinks with metal linings may be used for bars or soda fountains.
b'. When serving two or more floors.
c'. Inside any building used for human habitation.

EXHIBIT X—Concluded

d'. Unless first connected with approved catch-basin.
e'. Inside of buildings.
f'. Or rain water leader.
g'. In residences, hotels, or restaurants, provided, that wooden sinks may be lined with sheet lead or copper.
h'. Absorption not to be "extensive."
i'. Except in the case of hotels and restaurants, and then to be over 8 in. in depth.
j'. Unless provided with a trap, suitably ventilated.
k'. On cellar floor.
l'. Trap to be counter vented.
m'. Refrigerator wastes in residences need not be so connected with sewer.
n'. Except copper lined sinks for bars, chemical sinks, and bottle sinks.
o'. Except in tenements.
p'. Cement or artificial stone tubs only permitted on approval.
q'. Not in the same room.
r'. Except where necessary.
s'. Except in saloons and cold storage houses, where same may be connected, through a properly vented trap, direct with the sewer system.
t'. Outside the house.
u'. Having waste pipes equal to the overflow pipe.
v'. In any other building than that in which they were located originally.
w'. In plain sight.
x'. Not definitely stated.
y'. Without permit.
z'. Not to be located in any room used for living purposes.
a" Other than water closet and urinal.
b" Wooden troughs or sinks permitted, whether lined or not, for bars, soda fountains, or dish sinks in hotels.
c". In constant use.

Disconnection from Refrigerator.—The disconnection of refrigerators, etc., from their waste pipes, by trays or otherwise, is very essential and should always be insisted upon, but this requirement is not found in nineteen of the codes.

Trapping.—The trapping of the waste pipes of refrigerators, etc., at or near the trays is very essential, but this is not specified in twenty-three of the codes; and, in those codes in which the trapping is specified, there is a lack of uniformity in regard to the location of the trap or an absence of information upon this point. Thus, in four instances, the trap is to be near the refrigerator; in two, at the lower end; and, in one, on the branch. In three codes, the location of the trap is not specified.

Flap Valve.—With a proper trap in the waste pipe of a refrigerator, the provision of a flap valve at the lower end of the pipe is unnecessary, yet this is required in three of the codes, in two of which an exception is made in the case of refrigerators in tenements.

Improper Methods of Discharge.—Nine codes, very properly, prohibit the discharging of refrigerator wastes upon the ground or floor, probably meaning the ground or floor inside and outside of the building, while two codes permit the discharge of such wastes outside of the building, in one of which the stipulation is made that the discharge must be in plain sight.

Indirect Connection with Sewer.—The proper method of terminating the waste pipes from refrigerators, by causing them to discharge over an open sink or other fixture, is specified in twenty-one codes, in thirteen of which the requirement is made that the sink, etc., be properly trapped; in three, that the trap of the sink, etc., be properly vented; and in eleven, that the sink, etc., be water-supplied. Other methods prescribed in the codes for the termination of these pipes may be seen by reference to the accompanying exhibit.

Sizes.—The sizes of refrigerator wastes are specified in but three of the codes, with the usual lack of uniformity. Thus, in one code, a **minimum** of 1½ in. is specified; in one, a **maximum** of 1½ in., with 1¼ in. branches, in tenements and lodging houses; and, in the third, a uniform size of 2 in.

Cleanouts, Etc.—As liquids of a putrescible and greasy character are often spilled in refrigerators, and may thus gain access to and foul the waste pipes, provision should always be made for the proper cleansing of the interiors of such pipes. This is recognized in but seven of the codes, in four of which cleanouts are prescribed, and, in four, an arrangement of the pipes which will permit of flushing. For the purpose of reducing the fouling surface in such pipes to the minimum, and to facilitate cleansing of the same, four of the codes, very properly, stipulate that the pipes be as short as possible, but the further stipulation should be made that they be as straight as possible.

Ventilation.—For the prevention of the unsealing of the traps of refrigerator wastes by siphonage, and the constant removal of foul air which may be generated in the waste pipes of same, the ventilation of the latter would be a wise proceeding and should be enforced in every instance where they serve more than one refrigerator. In three of the codes under consideration, proper venting of the traps is required; in two, an extension of the waste pipes above the roof in every instance; and, in seven, an extension above the roof in certain cases only.

Overflow and Discharge Pipes from Supply Tanks and Cisterns.

Conspicuousness of Overflow.—In the case of overflow pipes of supply tanks or cisterns which are filled directly from the public water supply, the point of discharge should always be in plain sight and, wherever practicable, on the outside of the building, so that prompt warning may be given and waste of water prevented whenever the feed valve might fail to shut off the water at the proper point. In the case of a tank or cistern which is supplied by a pump on the premises, in the absence of automatic control of the pump or other device for regulating the height of water in the tank or cistern, the overflow should terminate in some conspicuous place near the pump, so that it may serve as an indicator of the fullness of the tank when pumping is in progress.

Separate Treatment for Discharging Pipes.—The discharge pipe of a supply tank or cistern should always be conveyed to a proper water-supplied sink or catch-basin, capable of taking care of all the water which may be discharged into it and of preventing the entrance to the sewer of solid matters which might accumulate in the tank or cistern from time to time. As a rule, in the codes under consideration, separate treatment of overflow and discharge pipes of this character seems to have been overlooked; and, in many instances, the discharge pipes are not even mentioned.

Direct Connection with Sewer Prohibited.—The direct connection of the overflow or discharge pipes, or both, with any part of the sewerage system is specifically prohibited in but fifteen codes, but the specifications in two other codes relative to the termination of such pipes indicate that such prohibition is intended.

Indirect Connection with Sewer.—The method of ter-

mination of the overflow or discharge pipes, or both, is specified in but eleven codes, all of which require a discharge into an open sink or other fixture, and all but three of these contain the alternative of a discharge upon the roof. In eight of the codes, the sole requirement is made that the pipes be in plain sight.

Of the eleven codes which require that the discharge be into an open sink or other fixture, but four require proper trapping of the fixture; one, the proper venting of the fixture trap; three, that the fixture be water-supplied; and one, that the fixture be not more than 3½ ft. above the floor.

Trapping.—For some reason which is not apparent, three of the codes specify that the overflow or discharge pipes, or both, shall be trapped, in one of which the ambiguous requirement is found that such pipes "be trapped into an open fixture and discharge."

Flap Valves.—It is certain that the overflow or discharge pipe of a supply tank or cistern from which water is obtained for drinking or domestic purposes should not terminate at any point where foul air would be likely to be generated or accumulate, and it is equally certain that, if such an arrangement were unavoidable, the trapping of the pipe could not always be depended upon to prevent the passage to the tank or cistern of air from such undesirable source. In such a case, the provision of a proper flap valve at the lower end of the pipe would obviate the necessity for a trap and be a more reliable arrangement. In this connection, it will be interesting to note that, while six of the codes require the provision of flap valves at the lower ends of the waste pipes from safes and drips, but one of the codes contains any such requirement for the overflow or discharge pipes of supply tanks or cisterns.

Waste Pipes from Soda Fountains and Bar Fixtures.

As a rule, the waste pipes from soda fountains and bar fixtures may be treated in the same manner as provided for sinks in other places. Three of the codes, however, specify that such wastes may not be directly connected with any part of the sewerage system, and, in two other codes, the prohibition extends to soda fountains only. The specifications relative to the termination of these pipes may be seen in the accompanying exhibit.

Waste Pipes from Vats.

In one code, the direct connection of the waste pipes from vats with the house drain is prohibited, the necessity for which precaution would depend upon the nature of the liquid substance which might be stored in such receptacle. Thus, a vat which is used for the storage of any substance which is intended for consumption as food, or which, by storage, would produce a considerable deposit of solid matter in the vat, should be made to discharge, in a proper manner, into an open catch-basin. There may be, however, instances in which the liquid which is stored in the vat, or that portion of the same which would be contained in the water which was used for the washing of the vat, might, properly, be discharged, through a proper trap, directly into a sewer.

Waste Pipes from Drinking Fountains; Vats and Sterilizers in Creameries; Wash Trays and Washing Machines in Public Laundries; and Fixtures in Dye-Houses and Similar Establishments.

In one code, all wastes from drinking fountains; vats and sterilizers in creameries; wash trays and washing machines in public laundries; and fixtures in dye-houses and similar establishments, are required to drain into an open and properly trapped fixture, but the necessity for including in this category the waste pipes from drinking fountains, the wash trays in public laundries, and, possibly, the sinks in dye-houses and similar establishments, is not apparent.

Waste Pipes from Water Filters.

In two codes, provision is, very properly, made for the disconnection from the sewerage system of the waste pipes from water filters, but the specification in one of the codes that the wastes shall "be indirectly connected in an approved manner" is not sufficiently explicit and might lead to dissension between the plumbing inspector and those directly interested in the installation of such waste pipes.

Waste Pipes from Gas Engines, Air Compressors, or Vacuum Cleaners.

Specifications relative to the treatment of the wastes from gas engines, air compressors and vacuum cleaners, are found in but one of the codes, but the requirement that such wastes shall discharge over an open sink might, very properly, be amended so as to permit of their discharge over a proper floor trap or catch-basin in cases where the discharge into a sink might not be practicable.

Sediment Pipes of House Boilers.

The sediment pipes of house boilers should never be directly connected with any part of the sewerage system, but this is not prohibited in twenty-six of the codes; and in those codes in which some specification is found relative to this question the proper treatment of such pipes—by causing them to discharge over a properly trapped and water-supplied sink or other fixture or floor drain—is not fully specified in a single instance.

Grease Traps.

The provision of a grease trap in connection with every fixture or appliance into or from which considerable grease may be discharged should be required by every plumbing code, but this requirement seems to have been overlooked in twenty of the codes under consideration. The requirements of the remaining thirteen codes in regard to the provision of grease traps may be seen by reference to the accompanying exhibit.

(To be continued.)

COPPER MOVES UPWARD.

The persisting hammering by the bears in the London market has produced a good deal of unsettlement, and the price of copper, that is the quoted price, is now fully one cent lower than at the first of the month. The speculators in London have been aided to a marked degree by the refusal of British and Continental bankers to carry loans on speculative copper. Much of the copper which was held for purely speculative purposes has been sold and will not pass into consumption, this will mean that such copper is to be purchased from the mining interests. The situation will be more interesting as time passes, and it would be indeed surprising if the returns of the Copper Producers' Association show the same decrease in stocks as was shown this month.

TIN LESS ACTIVE.

American consuming interests are not buying as much tin as a month ago, but the leading consumer has purchased a great deal of tin for Fall delivery. Sales are being made at 45-cents for tin in 5-ton lots.

The Semi-Annual Meeting of the American Society of Heating and Ventilating Engineers

Held in the Hotel Tuller, at Detroit, Mich., on July 11, 12 and 13, 1912

The American Society of Heating and Ventilating Engineers held its semi-annual meeting at the Hotel Tuller in Detroit, Mich., on Thursday, Friday and Saturday, July 11, 12 and 13, with a good attendance, about seventy-five members and guests being present.

Opening Session.

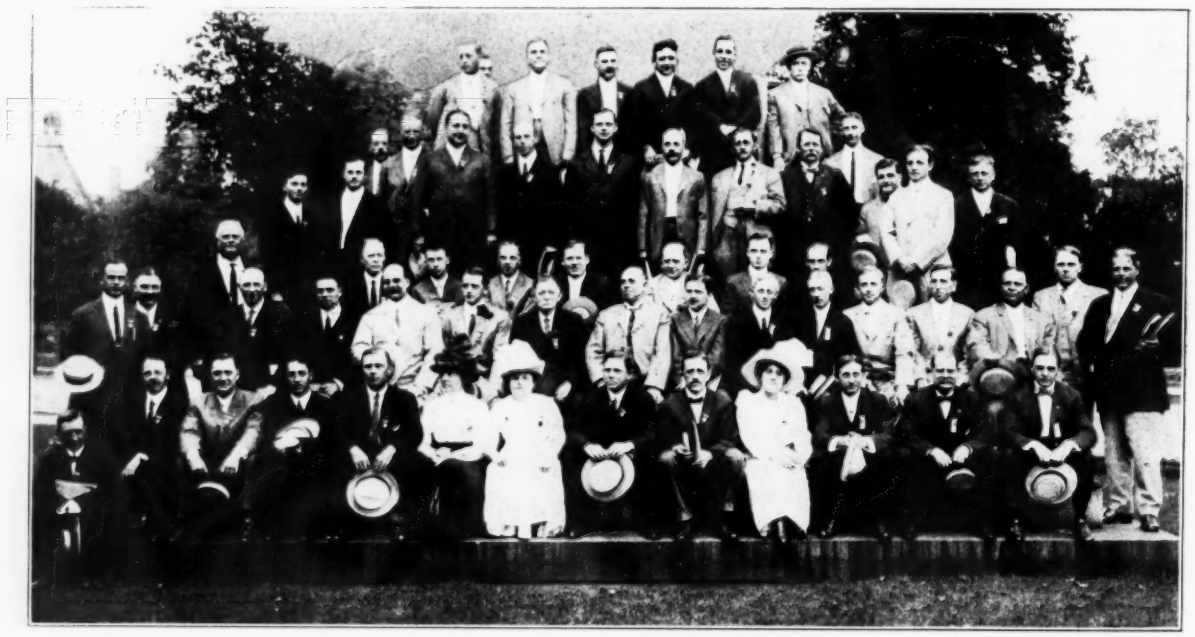
The opening session was called to order at 10:45 Thursday morning by Vice-President John F. Hale, of Camden, N. J., who presided at the meeting owing to the absence of the president of the Society, Professor John R. Allen, who is at present in Constantinople, Turkey, supervising the construction of an engineering building and the establishment of an engineering department at the Robert College near that city.

Directly after the opening of the meeting Mr. Hale proceeded to the reading of a paper by Professor Allen, sent to the meeting from Constantinople and entitled "Heating in Turkey." This paper contained a most graphic and interesting description of the primitive and crude methods of heating in vogue in Turkey, and it was preceded with the following greeting to the Society:

"It is with great regret that this paper is sent to the Society to be read, for I should much prefer to present it myself. Unfortunately, Constantinople is too far away to permit returning to the meeting, and I can only send the Society greetings and my best wishes for a successful meeting.

"I wish to thank the Society for the honor that it has conferred in electing me president, and am very much disappointed that I shall not have the opportunity of taking an active part in its meetings during the coming year. The war between Italy and Turkey, and the closing of the Dardanelles, have seriously interrupted the work here, and I shall be detained much longer than was anticipated. In fact, doing work here takes at least twice as long as in most countries of Europe. The best I can do is to send a few thoughts, and as my residence is at present in Turkey, some observations in regard to business conditions here may be of interest to the Society."

Professor James D. Hoffman, of the University of Nebraska, made a motion to the effect that the Secretary be instructed to write Professor Allen a letter of thanks and appreciation for his excellent paper. The motion was carried unanimously.



Delegates and Guests Attending the Semi-Annual Meeting of the American Society of Heating and Ventilating Engineers, Held in Detroit, Mich., July 10-13, 1912.

Samuel R. Lewis, of Chicago, president of the Illinois Chapter of the American Society of Heating and Ventilating Engineers, was then called upon, and he gave a most interesting and comprehensive report of his chapter's activity.

Joseph Graham, of New York City, secretary of the New York Chapter, read a paper reporting the doings of that chapter.

H. W. Whitten, of Boston, reported on the Massachusetts Chapter's activity during the past six months.

Edwin A. May, of Chicago, chairman of the Sub-Committee on the Code for Testing House Heating Boilers, reported that this committee had not had opportunity to make such exhaustive tests as were deemed necessary before a final report could be submitted to the Society.

The Sub-Committee's report on the Standard Outside Minimum Temperature was read by Secretary W. W. Macon, in the absence of its author, R. P. Bolton.

Frank T. Chapman, of New York City, explained that it was impossible at this time to submit a complete report on Ventilation Standards for Motion Picture Theaters.

Jas A. Donnelly, of New York City, spoke at length on Steam Heating in Factory Buildings, and he also touched in an interesting and instructive manner on the subject of central station heating.

Professor James D. Hoffman did not submit an extensive report on Compulsory Legislation, but he gave an interesting talk on the subject which went straight to the point and caused much favorable comment.

Wm. M. Mackay, of New York, followed with a good report on Heating Guarantees.

Chairman Hale read a communication from the National District Heating Association suggesting that the American Society of Heating and Ventilating Engineers appoint a committee of five to meet a committee of the same number from the N. D. H. A. to co-operate in matters of scientific and practical tests.

At the Detroit Meeting.—From Left to Right They Are: W. W. Macon, Secretary; D. M. Quay, Past President, and Prof. Jas. D. Hoffman, Past President.

A motion was made by D. M. Quay, of Cleveland, and seconded by Jas. A. Donnelly that the Board of Governors be instructed to appoint such a committee. The motion was carried.

A motion was then made by Wm. M. Mackay, and seconded by Jas. A. Donnelly to the effect that the Society endorse the use of the United States Standard Flange Fittings. The motion was carried.

The election of a nominating committee for officers and members of council for 1913 was the next order of business. Those elected were: George Mehring, Chicago; H. W. Whitten, Boston; Joseph Graham, New York; Chas. F. Newport, Chicago; Fred R. Still, Detroit.

While the election was in progress, H. W. Whitten read a valuable paper on "Temperature Equivalents of Wind Velocities," calling forth many questions, which were all answered in detail by Mr. Whitten.

At this point the meeting adjourned until 2:45 p. m.

Afternoon Session.

Chairman Hale called the afternoon session to order at 2:45, and announced that the reading of papers was now in order.

James A. Donnelly read his paper on "The Time Element in Heating Apparatus."

John D. Small, of Chicago, followed with his paper on "Office Practice in Estimating Heating and Ventilation."

This caused D. M. Quay to offer a resolution that the

At the Detroit Meeting.—From Left to Right: John Boylston, of Chicago; and J. J. McDonald, of Cleveland.

Board of Governors be instructed to appoint a committee to investigate the subject of air changes as discussed in Mr. Small's paper. The resolution was passed.

Samuel R. Lewis, of Chicago, read his paper on "Heating and Ventilation of a Mitten Factory." The reading of this paper was followed with close attention and caused much discussion.

L. C. Soule, of Chicago, read his paper on "Humidity in Relation to Heating and Ventilation."

In the absence of H. C. Russell, of Washington, D. C., his paper on "Brick Drying" was read by Secretary W. W. Macon.

At the Detroit Meeting.—From Left to Right They Are: F. R. Still, of the American Blower Co.; Donald Stuart, of the Carrier Air Conditioning Co. (In Chair); L. C. Soule, of the American Radiator Co.; I. B. Coe, of the American Blower Co.

D. M. Quay, thereupon, introduced the following topic for discussion: "Upward versus Downward Ventilation for Theaters." Mr. Quay seemed to be strongly in favor

of downward ventilation. Many different points were presented and interesting installations were described by Samuel R. Lewis, John F. Hale and H. W. Whitten.

Owing to the absence of A. M. Feldman, of New York, his paper on "Ventilation of a Dispensing Building" was read by Wm. M. Mackay.

As it was now 5:30 p. m., it was decided to adjourn until 10 o'clock Friday morning.

Friday Morning Session.

This session was called to order promptly at 10 o'clock by Chairman Hale, whereupon F. R. Still, of Detroit, read a most instructive and interesting paper on "The Removal of Refuse and Waste by Fans and Blowers."

J. I. Lyle, of New York City, followed with a paper on "Methods of Automatic Humidity Control for Air Washers."

Ralph C. Taggart, of New York City, read the next paper, entitled: "Open Windows in Mechanical Ventilation."

John M. Stannard, of Chicago, read an excellent paper on "Heating and Ventilating the Northwestern University Buildings." This paper was based on a committee report presented to the Illinois Chapter by John M. Stannard, E. F. Capron, Robert A. Widdicombe and Chas. F. Newport, and it caused much favorable comment.

The consideration of the topics suggested for discussion was then in order, and after some of these had been discussed the convention was adjourned sine die.

Entertainments.

On Thursday afternoon the ladies accompanying the delegates to the meeting were entertained with a boat trip to Bois Blanc Island at the mouth of the Detroit River. The trip was in charge of F. R. Still. An excellent lunch was served at the Casino on the Island.

Thursday evening the delegates, guests and ladies enjoyed an automobile trip to Belle Isle.

On Friday afternoon the delegates paid an interesting visit to the the plants of the American Blower Co. and the Ford Motor Co. At the American Blower Co's. factory they saw ventilating fans of all sizes in process of manufacture and they also witnessed several interesting tests of fans and blowers.

The delegates who remained in Detroit Saturday, made on that morning a most interesting trip through the Delray plant of the Detroit Edison Co., where they saw a 2,300-h. p. boiler in process of construction and some large coal and ash handling devices.

List of Attendance.

The official register showed the following members and guests in attendance:

John F. Hale, Camden, N. J.; E. F. Capron, Chicago, Ill.; W. W. Macon, New York City; James A. Donnelly, Brooklyn, N. Y.; J. D. Hoffman, Lincoln, Nebr.; W. M. Mackay, New York City; S. R. Lewis, Chicago; A. S. Armagnac, New York City; Chas. J. Peck, Detroit; Fred Venton, Detroit.

A. W. Kelly, Red Bank, N. J.; F. R. Still, Detroit; E. W. Sanborn, Detroit; Charles A. Locke, Detroit; Aaron Miller, Kalamazoo, Mich.; R. W. Alger, Chattanooga, Tenn.; Mark E. Monash, New York City; J. J. McDonald, Cleveland; J. O. Sargent, Detroit; John P. Berry, Detroit.

T. Wilson, New York City; Abner E. Werkhoff, Lafayette, Ind.; H. S. Van Valkenburgh, Detroit; Herbert A. Whitten, Boston; W. T. White, Detroit; E. A. Scott, New York City; Henry B. Gombers, New York City; J. M. Doesburg, Milwaukee, Wis.; Donald Stuart, Chicago; Theo. Weinshank, Indianapolis; A. G. Pittelkow, Detroit.

H. A. Hamlin, Detroit; J. B. Gough, Detroit; R. L. Douglas, Boston; H. J. Hademacher, Detroit; P. A. Hoffman, New York City; J. E. Anderson, Chicago; Ralph Collamore, Detroit; G. H. Kirk, Chicago; S. O. Dugger, Chicago; Jos. Meehan, New York City.

J. G. Sorgen, Richgrove, Cal.; E. P. Bradley, St. Louis; E. E. Walton, Detroit; James E. Degan, Detroit; John Boylston, Chicago; N. A. Henwood, Detroit; S. C. Cutler, Cleveland; E. D. Smith, St. Louis; T. C. Taylor, Detroit; T. B. Cox, Detroit.

W. J. Keep, Detroit; J. V. Bailey, Detroit; C. McSorley, Detroit; T. S. Keegan, Indianapolis; E. J. Domasney, Detroit; A. M. Minnick, Detroit; W. M. Kingsbury, Cleveland; C. H. Vitalius, Detroit; W. R. Brewer, Cleveland; James H. Davis, Chicago.

J. F. Lewis, Detroit; G. D. Higgins, Detroit; J. B. Bolton, Detroit; J. M. McHewn, Detroit; F. H. Mason, Detroit; O. A. Wurm, Detroit; J. C. Kenney, Detroit; B. E. LaFollette, Detroit; Weston Wrigley, Toronto, Canada; William Sells, Chicago.

S. E. Fenstermaker, Indianapolis; Frank G. Phegley, Cleveland; J. H. Walker, Detroit; J. I. Lyle, New York City; A. C. Rogers, Toledo, O.; H. W. Ellis, Milwaukee, Wis.; W. H. Chapman, Windsor, Ontario; Ralph T. Coe, Detroit; Wm. M. Foster, Detroit; A. W. Varney, Detroit.

Joseph Graham, New York City; Howard T. Gates, New York City; E. A. May, Chicago; O. T. Carson, Chicago; H. L. Williams, Pittsburg; Jas. H. Davis, Chicago; J. M. Stannard, Chicago; L. C. Soule, Chicago; John D. Small, Chicago; Frank T. Chapman, New York City; D. M. Quay, Cleveland; J. A. Bursley, Ann Arbor, Mich; Chas. F. Newport, Chicago.

Among the ladies present were: Mrs. W. W. Macon, New York City; Mrs. A. W. Kelly, Red Bank, N. J.; Mrs. H. W. Whitten, Boston; Mrs. Donald Stuart, Chicago; Mrs. Theo. Weinshank and Miss Anna Weinshank, Indianapolis; Mrs. A. G. Pettelkow, Detroit; Mrs. E. E. Walton, Detroit; Mrs. James H. Davis, Chicago; Mrs. Weston Wrigley, Toronto; Mrs. William Sells, Chicago; Mrs. Frank G. Phegley and Miss Phegley, Cleveland, O.

STEEL ORDERS INCREASE.

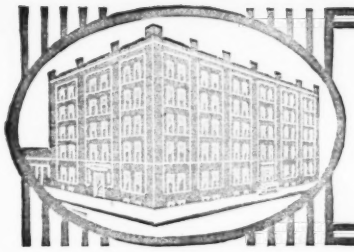
The United States Steel Corporation reported the month ending June 30th an increase in unfilled tonnage on its books of approximately 50,000 tons. The shipments during June were heavy and it may be that the new high record, as far as tonnage is concerned, was made during that month. The increase for this month will not be available for about a fortnight.

The market continues strong with numerous advances in prices of finished products. In the line of structural steel and shapes the shops are almost swamped with orders, for the orders now cannot be shipped within ninety days, the least possible time, and in some cases an even longer time must elapse. In the pig iron markets prices are again higher, Southern Foundry in Birmingham having moved up another 25-cents a ton. Quotations for pig iron are as follows:

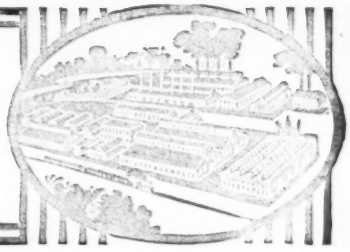
No. 2 Southern Foundry Birmingham	$11.50 to	$12.00
No. 1 Northern Foundry New York	15.00 to	16.00
No. 2X Northern Foundry	15.25 to	15.75
No. 2 Southern Foundry Cincinnati	14.50 to	14.75
No. 2 Northern Foundry Chicago	14.50	

SPELTER.

Another new high record has been made in the price of zinc ore, and spelter is now quoted at 7.15-cents, New York.



News of Interest Among the Wholesalers and Manufacturers



SUMMER MEETING OF THE CENTRAL AND EASTERN SUPPLY ASSOCIATIONS IN ATLANTIC CITY, N. J.

The Central Supply Association held its fifty-ninth meeting at the Hotel Dennis, Atlantic City, N. J., on Wednesday morning, July 10th. At the same time and place the Eastern Supply Association held its regular mid-summer meeting with a good attendance. In the afternoon the two associations held a joint meeting also at the Hotel.

The Central Supply Association elected the following new members:

Ohio Brass Co., Mansfield, Ohio.

Cornell-Wigman-Searl Co., Lincoln, Neb.

West Company, Salt Lake City, Utah.

Young & Vann Supply Co., Salt Lake City, Utah.

Coates Plumbing Supply Co., Tampa, Fla.

The following operative resolution was adopted by the Central Supply Association:

"Whereas, members of this Association have been frequently requested by customers to furnish fictitious invoices for supplies sold, particularly where such customers have taken contracts on a percentage basis; and

"Whereas, we do not believe that compliance with requests of this character is justifiable, either on the ground of good business policy or ethics;

"Therefore, Be it Resolved, That in the future we will absolutely decline to furnish any such invoices, and will only furnish regular bills or invoices applying to such purchases."

The Association voted to affiliate itself with the newly organized Chamber of Commerce of the United States of America.

The following members of the Central Supply Association were present or represented by proxy as indicated:

Atlanta, Ga.—General Supply Co., T. W. Baxter.

Birmingham, Ala.—Hammond-Byrd Co., Horace Hammond.

Canton, O.,—Buckeye Tank & Seat Co., C. R. James.

Chattanooga, Tenn.—The Cahill Iron Works, F. H. Caldwell, Russell D. Knight; Casey-Hedges Co., M. M. Hedges.

Chicago, Ill.—W. D. Allen Mfg. Co., proxy; Central Foundry Co., C. C. Todd; Jas. B. Clow & Sons, J. B. Clow; Crane Co., C. D. Little; M. F. G. Goulds Co., N. J. Gould; Kellogg-Mackay Co., C. V. Kellogg; C. N. Marcellus Co., Jos. T. Cotton; Mark Mfg. Co., E. A. Eichel, C. W. Larsen, L. P. Sutter; National Plumbing & Heating Supply Co., proxy; M. S. Raymond, A. M. Lally; Republic Mfg. Co., proxy; J. J. Ryan & Co., J. J. Ryan; Weir & Craig Mfg. Co., proxy; Western Plumbing Supply Co., A. A. Ainsworth, proxy; S. Wilks Mfg. Co., proxy.

Cincinnati, O.—Merkle Bros. Company, A. A. Merkel.

Cleveland, O.—Kennedy Company, W. G. Callow.

Dayton, O.—McCormick Mfg. Co., proxy.

Denver, Colo.—Morse Bros. Mchy. & Supply Co., proxy, M. J. O'Fallon Supply Co., proxy.

Detroit, Mich.—A. D. Mfg. Co., proxy; Detroit Brass Works, Frank L. Uhl, A. H. Warner; Detroit Lead Pipe & Sheet Lead Works, E. A. Morris; Detroit Range Boiler Co., E. W. Studdard; Diamond Mfg. Co., W. M. Brecht; Kimball-Eisenberg Co., Perry F. Kimball; United States Radiator Corporation, E. E. McNeir; Walker Mfg. & Supply Co., proxy.

Dubuque, Ia.—A. Y. McDonald Mfg. Co., A. Y. McDonald.

Grand Rapids, Mich.—Ferguson Supply Co., Ltd., proxy; Grand Rapids Supply Co., proxy.

Indianapolis, Ind.—Indiana Supply Co., James Gilchrist.

Kansas City, Mo.—Kansas City Pump Co., proxy.

Kokomo, Ind.—Central Closet Mfg. Co., proxy; Great Western Pottery Co., E. Willard.

Louisville, Ky.—Ahrens & Ott Mfg. Co., S. H. Moon.

La Crosse, Wis.—La Crosse Plbg. Supply Co., E. F. Niedecken, proxy; W. A. Roosevelt Co., proxy.

Mansfield, O.—Barnes Mfg. Co., T. R. Barnes; Hughes Supply Co., proxy; The Ohio Brass Co., W. T. Jameson.

Menominee, Mich.—Emerson Supply Co., proxy.

Milwaukee, Wis.—Hoffmann & Billings Mfg. Co., E. F. Niedecken.

Minneapolis, Minn.—Central Supply Co., P. J. Frey.

Muncie, Ind.—Geo. Keiser & Co., J. M. Gilchrist, proxy.

New Orleans, La.—Manion & Co., proxy.

New York, N. Y.—American Sanitary Works, B. O. Tilden, W. A. Cawley; Central Foundry Co., Waddell Catchings.

Omaha, Neb.—United States Supply Co., J. B. Rahm.

Peoria, Ill.—Kinsey & Mahler Co., proxy.

Pittsburgh, Pa.—Bailey-Farrell Mfg. Co., Geo. H. Bailey; Fort Pitt Supply Co., proxy; Iron City Sanitary Mfg. Co., J. A. Kelly, C. F. Meyer; Pittsburgh Valve & Fittings Co., C. L. Selkregg, L. B. Jenks; Republic Iron & Steel Co., W. B. Topping, D. J. Geary, W. H. Hall; Spang, Chalfant & Co., J. D. Purdy, Jr.; Standard Sanitary Mfg. Co., Francis J. Torrance; United States Sanitary Mfg. Co., Alan W. Ham.

Portsmouth, O.—Standard, Supply Co., proxy.

Quincy, Ill.—Modern Iron Works, proxy.

St. Louis, Mo.—John C. Kupferle Foundry Co., W. C. Ehrhardt; Monument Plumbing Supply Co., Wm. Ivy.

St. Paul, Minn.—Cochran-Sargent Co., P. J. Frey, proxy; Union Brass & Metal Mfg. Co., P. J. Frey, Western Supply Co., E. F. Niedecken, proxy.

San Antonio, Tex.—Higgins Co., C. V. Kellogg, proxy.

Sheboygan, Wis.—J. M. Kohler Sons Co., J. B. Murphy.

Steubenville, O.—La Belle Iron Works, H. D. Westfall, W. E. Watson.

Sturgis, Mich.—Miller-Hubbard Mfg. Co., proxy.

Toledo, O.—American Plumbers Supply Co., proxy; National Supply Co., proxy.

Waukegan, Ill.—Northern Brass Mfg. Co., C. S. Johnson.

Wheeling, W. Va.—Trimble & Lutz Supply Co., proxy; Wheeling Steel & Iron Co., John Duncan.

Youngstown, O.—Youngstown Sheet & Tube Co., W. E. Manning, Chas. E. McInnes.

The Eastern Supply Association elected the following new members:

Daly Bros., 150 So. Elm St., Waterbury, Conn.

Florida Auto. & Gas Eng. Co., Tampa, Fla.

Hart & Crouse Co., 78 Lafayette St., Utica, N. Y.

Geo. I. Roberts & Bros., 471 Fourth Ave., N. Y.

Savannah Supply Co., 301 Bay St., West, Savannah, Ga.

Thornley Supply Co., 40 Thornley St., Pawtucket, R. I.

L. Wolff Mfg. Co., Rochester, N. Y.

The Credit Bureau report to date of meeting shows claims amounting to $181,985.75. Amount of claims paid to date, $98,747.61.

The following members of the Eastern Supply Association were present or represented by proxy as indicated:

Baltimore, Md.—The James Robertson Mfg. Co., W. A. McPhail.

Bayonne, N. J.—Bayonne Supply Co., G. E. Keenen.

Boston, Mass.—Dalton-Ingersoll Mfg. Co., O. J. Saxe; W. B. Hubbard & Sons Co., Frank W. Hubbard; F. W. Webb Mfg. Co., C. R. Schmidt.

Brooklyn, N. Y.—Coyne & Delany Co., J. J. Delany.

Buffalo, N. Y.—W. A. Case & Son Mfg. Co., proxy; Zander Plbg. Supply Co., F. W. Zander.

Conshohocken, Pa.—Eastern Range Boiler & Welding Co., H. B. Hallett; John Wood Mfg. Co., V. Mauck.

Elmira, N. Y.—Irving D. Booth, by Chas. A. Taylor.

Hartford, Conn.—Plimpton & Hills Corporation, H. C. Fletcher, F. T. Stevens.

New York, N. Y.—Central Foundry Co., Waddill Catchings, J. W. Farrell, Ray D. Lillibridge; Hinsdale Meyer Co., proxy; L. O. Koven & Bro., L. O. Koven; McCrum-Howell Co., James D. Brady, G. G. Jones; J. L. Mott Iron Works, Edward Hammann; John A. Murray & Co., John A. Murray; Nason Mfg. Co., proxy; A. B. Sands & Co., proxy; Henry Stein; U. S. Radiator Corporation, T. H. Johnson.

Norfolk, Va.—Virginia-Carolina Supply Co., A. A. Tomlinson.

Philadelphia, Pa.—Stanley G. Flagg & Co., E. Raysor; Ford & Kendig Co., Theo. B. Reeves; Haines, Jones & Cadbury Co., J. Harvey Borton; Haynes-Thompson Co., E. S. Thompson; Keystone Supply & Mfg. Co., F. W. Dows; Kitson Co., J. W. Graham; McCambridge-Cooper Co., Wm. M. Allen; Standard Sanitary Mfg. Co., J. C. Parry; U. S. Radiator Corporation, Geo. W. Barr.

Richmond, Va.—Virginia-Carolina Supply Co., A. H. Tuttle.

Rochester, N. Y.—Samuel Sloan Co., proxy.

Somerville, N. J.—Somerville Iron Works, W. J. Kirby.

Syracuse, N. Y.—The R. C. McClure Co., John McClure Chase; Pierce, Butler & Pierce Mfg. Co., C. F. Bennett and P. M. Beecher.

Trenton, N. J.—Cochran Drugan & Co., M. C. Oliphant; Keystone Pottery Co., J. W. Lyons; John Maddock Sons, F. W. Bamford; Potteries Selling Co., R. M. Fielder; The Trenton Potteries Co., John A. Campbell; Warren Balderston & Co., B. J. Newell, W. O. Warren.

Utica, N. Y.—Hart & Crouse Co., L. H. Birdseye; Chas. Millar & Son Co., Edward G. Wagner.

Washington, D. C.—Chesapeake Supply Co., E. L. Stock; C. J. McCubbin Co., John K. Heyl; Standard Sanitary Mfg. Co., Geo. Herth, Jr.

Waterbury, Conn.—American Pin Co., L. S. Rothwell; Daly Bros., proxy.

Waukegan, Ill.—The Northern Brass Mfg. Co., C. S. Johnson.

Wilkes-Barre, Pa.—Wyoming Valley Supply & Mfg. Co., Joseph F. Evans.

Wilmington, Del.—Speakman Supply & Pipe Co., Morris L. Horner.

Lansdale, Pa.—Central Radiator Co., Paul G. Rahe.

New York, N. Y.—Central Foundry Co., J. P. Donohue; J. M. Kohler Sons Co., W. Barth; U. S. Sanitary Mfg. Co., A. W. Ham.

Noblesville, Ind.—Union Sanitary Mfg. Co., J. W. Gannon.

Philadelphia, Pa.—Republic Iron & Steel Co., W. B. Topping.

Pittsburg, Pa.—Iron City Sanitary Mfg. Co., J. W. Burr.

Trenton, N. J.—N. J. China Pottery Co., E. C. Hutchinson.

Youngstown, O.—Republic Iron & Steel Co., D. J. Geary.

At 2:00 o'clock in the afternoon the joint meeting of the Eastern and Central Supply Associations was called to order by P. M. Beecher, president of the Eastern Supply Association, in the breezy parlors of the Hotel Dennis.

Following his introductory remarks, William Ivy, president of the Central Supply Association, was appointed permanent chairman, and Paul Blatchford, secretary of the same organization, assumed the duty of secretary.

Mr. Ivy then introduced the first speaker of the afternoon, Hon. Charles M. Pepper, connected with the State Department, Washington, D. C. Mr. Pepper gave a most able and interesting talk on "The Relations of the State Department to the American Manufacturer," treating on various phases of the export business.

The next address was given by C. V. Kellogg, of Kellogg-Mackay Co., Chicago, on the subject of "The New Competition." Mr. Kellogg was listened to with close attention by every member present.

A discussion then followed on the subject of Non-Guaranteed Enameled Ware, introduced by correspondence with the various manufacturers in this line.

J. C. Clow, vice-president of James B. Clow & Sons, Chicago, had planned to present the subject of the Associations compiling a preferred hotel list, but unfortunately was called away before the subject was introduced. It was therefor deferred until the next meeting.

THE WESTERN TRADE GOLF ASSOCIATION'S JULY TOURNAMENT.

The Western Trade Golf Association will hold its next monthly tournament at the Edgewater Golf Club, Chicago, on Thursday, July 25th. All the members of the Association are urged to be present at this meet and it is expected that it will be well-attended and a most enjoyable event. Secretary H. M. Sedgwick, 3517 Shields Avenue, Chicago, has just issued the formal notice of the affair.

THE HAYDENVILLE CO. NOW IN CONTROL.

The Bay State Brass Co., of Haydenville, Mass., and New York City, has passed into the control of The Haydenville Co., of Haydenville, Mass., which will continue the plant under separate management. Both of these concerns manufacture plumbers' brass work.

The Flexitallic Gasket Co., of Camden, N. J., has been incorporated with a capital of $100,000, to manufacture steam fittings. J. D. Baker, of Camden, is at the head of the new enterprise.

A POPULAR PLUMBING SALESMAN.

J. F. Redman, whose likeness is shown herewith, is the popular representative of Jas. M. Teahen, manufacturer of closet tanks and plumbers' supplies, at 171-191 Beecher Avenue, Detroit, Mich. Mr. Redman covers the Eastern States in Mr. Teahen's interest, and he has a large acquaintance in the trade in that part of the country.

J. T. Redman, Eastern Representative of Jas. M. Teahen, Detroit, Mich.

MINNEAPOLIS HEAT REGULATOR CO.'S NEW OFFICE AND FACTORY BUILDING NEARING COMPLETION.

The Minneapolis Heat Regulator Co. is erecting a new office and factory building at Fourth Avenue and 28th street in Minneapolis, Minn., to accommodate its business of manufacturing heat regulators. This new building is now nearing completion and it is expected that it will be ready for occupation about August 1. The new plant will be thoroughly modern in every feature, absolutely fireproof, being of concrete and the construction with no wood, even the window frames being of steel. All the latest modern devices are being installed such as sprinkler plant, modern heating, electric lighting, plumbing, etc. The new factory will also contain enameling ovens and a complete plating department. All machinery will be new and of the very latest patterns, driven by individual electric motors. The company owns a large additional frontage on Fourth Avenue which will enable it to increase its plant from time to time, the present building being constructed as a part of a uniform scheme. The company recently amended its articles of incorporation, changing the name from the Electric Heat Regulator Co. to the Minneapolis Heat Regulator Co., and increasing its capital stock, which is all fully paid, from $40,000 to $200,000. This business is an illustration of what can be built up by energetic and efficient management. Fifteen years ago when Wm. R. Sweatt, president of the company, took charge of the business, its employes numbered two, and its total yearly transactions were considerably less than the average daily sales at the present time, the business having grown constantly until it extends all over the United States and Canada. The company maintains branches in St. Paul, Boston, Syracuse, Cleveland, Kansas City, Omaha, and St. Louis, and its manufactured product is handled by all the leading jobbers and dealers in the heating and plumbing supply business. W. H. Wilson was recently elected secretary and has taken charge of the sales department. F. S. Stimson was elected assistant treasurer in charge of the accounting and credits. Mr. Sweatt still remains president and treasurer, and has the general charge and oversight of the company's business, and J. C. Kersteter is the superintendent, under whom many of the decided improvements in the mechanical perfection of the company's devices have been made. The Minneapolis Heat Regulator Co. reports an increase of sales of over 50 per cent, as compared with 1911, the largest year in the company's history. During the past ten years the factory has been operated every working day continuously, and has never been shut down for a moment, and on an average of three to four months out of the year the factory has operated a night shift.

The New Factory and Office Building of the Minneapolis Heat Regulator Co., at Minneapolis, Minn.

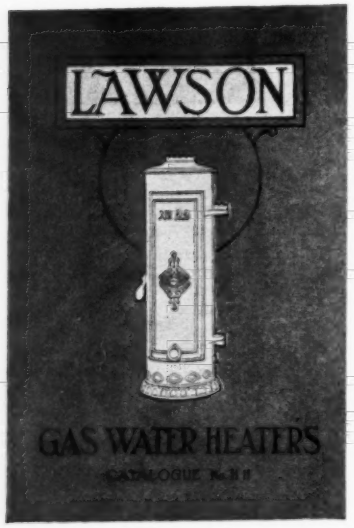
A NEW SANITARY DRAINBOARD.

The John Trageser Steam Copper Works, 447 W. 26th Street, New York, have recently placed on the market a new sanitary drainboard known as the "Manhattan" Drainboard, which they report is meeting with great favor in the plumbing trade. In setting forth the merits of this new product the manufacturers call attention to the fact that unlike the old-fashioned wood drainboards, there are no seams or cracks to harbor dirt and germs. This feature is especially desirable, as there is no plumbing fixture that comes in closer contact with dishes and tableware. The Manhattan drainboard is covered with special white metal—looks like sterling silver and can be scoured with any cleansing preparation without injury. Interested parties can obtain handsome folder describing and illustrating this drainboard by writing to the manufacturers and mentioning "Domestic Engineering."

ISSUES ATTRACTIVE NEW CATALOGUE.

The Lawson Mfg. Co., of Homestead, Pa., has recently issued a handsome catalogue, the front cover of which is reproduced on the next page. This book illus-

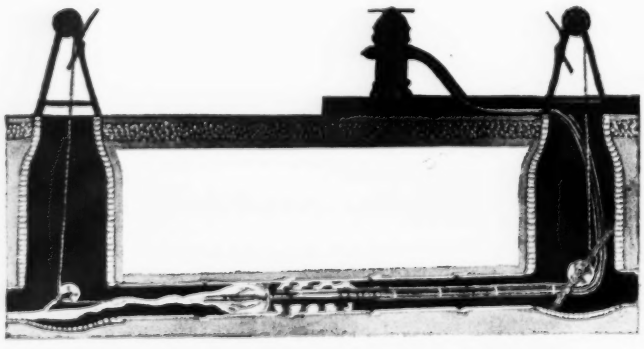
trates and describes fully the distinctive features of Lawson Gas Water Heaters and the Lawson Thermo Valve. In its pages are set forth the advantages of the Lawson Thermo Valve, in connection with the Lawson gas heater, among which it is stated that the action of the valve is unfailing and automatic; that without it there is trouble from overheating of the water, which means a waste of gas; that it absolutely controls the gas consumption, at the same time having a boiler of hot water always ready. The manufacturers claim that when the worth of this valve is universally known, it will be used on every Lawson heater. This catalogue is being mailed to the trade upon request.



Front Cover Design of Lawson Mfg. Co.'s New Catalogue.

THE TURBINE SEWER CLEANER.

The Turbine Sewer Machine Renovating Co., 197-11th Street, Milwaukee, Wis., manufactures a novel sewer cleaner which is a peculiar water turbine. In explaining the principle of the Turbine Sewer Cleaner, the manufacturers state that the water from the fire plug is directed over the turbine so as to get a velocity of 2,000 revolutions per minute which revolves the cutting blades so fast that they cut all the fungus matter and all grease and silt to about the consistency of grout. The water then forces all the matter down stream and leaves the sewer clean as the day it was laid. If the sewer is completely stopped, a worm gear forcing jack is placed in the lower man-hole, then short connecting rods are fastened to the rear of cleaning machine and the rods clamped to the hose. The machine is then forced through the sewer, letting the ground-up matter flow back over the machine. It is claimed that the use of the turbine sewer cleaner makes any city a cleaner place to live in, at a saving of thousands of dollars. A postal card addressed to the manufacturers, mentioning "Domestic Engineering" will bring a pamphlet and references to any one who is interested.



The Turbine Sewer Clearing Machine in Operation.

The Fetta Domestic Water Softening System.

THE FETTA EQUIPMENT DESCRIBED.

The Fetta Water Softener Co., of Richmond, Ind., in a unique booklet recently issued, describes in a comprehensive manner the Fetta Domestic Water Softening System. It is stated therein that the chief parts of the Fetta water softener consist of two tanks. One is a storage reservoir, which at all times retains an abundant supply of softened water for immediate use; the other tank is utilized for the actual process of softening. Both tanks are constructed of steel, their size depending upon the quantity of water required. The precipitating tank has a funnel bottom, which is supplied with flush-out valve. As the water is treated it passes through a center reaction tube in this tank. Above these two tanks is located the automatic feed box and the regulating mechanism that controls the water supply and its treatment. At the bottom of the storage tank is the outlet for supplying the house with water, and this tank is fitted with a quartz filter through which all the water must pass. Connections are made with the city water supply to the feed box, while the piping through the house connects with the bottom of the storage tank. Beneath these tanks is a drip-pan, and refuse from the softener is drained off through this pan. The system can be installed anywhere in the house to suit the convenience of owner. The accompanying illustration shows an installation of a Fetta Domestic Water Softener in a basement laundry room. This installation is especially recommended where it is desired to have no tank in upper part of house. It is claimed that no chemical remains in the water, and that the water is positively cleansed and softened. If you will write to the Fetta Water Softener Co., mentioning "Domestic Engineering," they will send you a copy of Booklet "A," containing full particulars about their entire line of water softening systems.

News of the Plumbing and Heating Contractors

Reports of the Week from Many Different Cities Show Both Business and Personal Activity in the Trade

NEWS FROM THE PACIFIC COAST.

San Francisco.

The plumbing contract on the Holbrook Building on Sutter near Sansome Street has been awarded to Boscus Bros. Amount of contract, $15,081.

Owing to changes made in the specification for the heating system of the new Standard Oil Building, the same firms who submitted figures previously, will be asked to refigure the job.

B. H. Clark and Edward Beasley, formerly of Calistoga, Cal., have opened a plumbing establishment and automobile rebuilding plant in the Humbert Building, West and Broad streets, Cloverdale, Cal.

A. R. Magruder, formerly of Minneapolis, Minn., has purchased the hardware store of Davis Bros. at Ripon, Cal., and will greatly enlarge the business by adding a line of electrical goods and furniture. Davis Bros. will still be connected with the firm and have charge of the plumbing establishment.

The new warden, J. A. Johnston, of Folsom Prison, Cal., has announced that the new bath house to be erected at the prison shortly will have two batteries of twenty hot and cold showers and seven new tubs for general use and special tubs for prisoners not allowed to bathe with the others. The bath house will contain a plunge 20 by 43 feet in dimensions.

F. E. Dooley, John W. Wall and others have filed application for a franchise to install a hot water heating system in the Westover-Terrace district at Portland, Ore.

NEWS FROM MINNEAPOLIS.

Minneapolis, Minn.—Utter & Erickson, Central avenue, were the fortunate bidders for the plumbing installation in ten new residences in different sections of this city. While their banking hours are not limited, they still find time for an occasional forty mile spin around Lake Minnetonka in the new power boat they have recently purchased.

Minneapolis, Minn.—The Bradley Heating Co., Lake avenue, is looming on the business horizon like a "White Hope," judging from the string of contracts recently secured by them. And all for hot water heating installations, too.

Minneapolis, Minn.—Ahern & Mullane are quickly coming to the front. Mr. Mullane was inspector of plumbing of this city for many years and naturally has a host of friends in this "Flour" town. They now have under way plumbing and heating installations in about twenty-five new residences.

NEWS FROM PHILADELPHIA AND VICINITY.

Jos. C. Brown, 5503 Mascher Street, Philadelphia, has secured the contract for plumbing in two houses at Olney Avenue and Mascher Street, Philadelphia, for Meyer & Townsend, owners.

W. J. Robinson, 6102 Ridge Avenue, Philadelphia, will install plumbing in the building northeast corner Ridge and Jamestown Avenues, for St. Timothy Hospital. He also has the contract for plumbing in two houses at Monestary Avenue and Tourston Street for W. Rowland.

H. L. David, 1340 Westmoreland Street, Philadelphia, will install the heating system in the Crassman operation, 59 houses, at Sixth Street and Elkins Avenue, Philadelphia.

W. J. McCuliff, 5940 Haverford Avenue, Philadelphia, will install modern plumbing in three houses at Lincoln Drive and McCallum Street, Germantown, for E. A. Carroll.

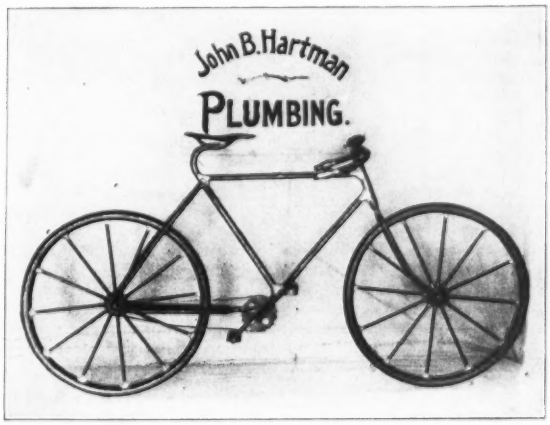
Thomas C. Henry, 3347 N. Fifth Street, Philadelphia, has the contract for plumbing at 3526 N. Randolph Street, Philadelphia, for J. Bowman.

Hirst Bros., Longshore and Porresdale Avenue, Tacony, Philadelphia, will install heating systems in six houses for F. Jordan, Tacony.

M. H. Whealin & Son, 1336 Girard Avenue, Philadelphia, are installing the drainage system at 1509 Reed Street, Philadelphia, for the estate of John Manuel.

Charles F. Woche is installing plumbing in his property, 5003 N. Fifth Street, Philadelphia.

The accompanying photograph shows a clever piece of lead work, made and exhibited at the Centennial celebration in Norristown, Pa., by one of the progressive plumbers of that town, J. B. Hartman, 518 DeKalb Street.



Ornamental Bicycle, Made Entirely of Lead.

It is made up entirely of lead. The following is sizes of pipe and sheet lead used in constructing same:

Wheels, 26-in. diameter, 1¼-2½ lb. lead pipe.
Spokes, ⅛-in., 6-oz. lead pipe.
Frame, ½-in., 2½-lb. lead pipe.
Frame head, 1-in., 2-lb. lead pipe.
Crank case, 1½-in., 3-lb. lead pipe.
Front and back forks, ⅜-in., 1¼-lb. lead pipe.
Sprocket wheels, chain, seat and bell, ⅛-in. sheet lead.
Total length of all sizes of pipe used, 57 ft. 10 in.
Height to top of seat, 3 ft.
Length over all, 5 ft. 8 in.

Boone & Sample, 1737 Filbert Street, Philadelphia, have the contract for the plumbing in the public bath house at Germantown Avenue and Stiles Street, Philadelphia.

Charles A. Rapp, 720 Lycoming Street, Philadelphia, will install a heating plant at 3707 N. Fifth Street, Philadelphia.

Alex. Steel, 615 S. Eighteenth Street, Philadelphia, is installing a drainage system at 1831 Webster Street, Philadelphia, for A. Coulter, owner.

Charles J. Belsito, 3153 Weymouth Street, Philadelphia, has the contract for installing drainage at 1409-11 S. Bancroft Street, Philadelphia.

Thompson Bros., 123 S. Fifth Street, Philadelphia, will install the heating plant at Stevens Public School, Philadelphia.

Frank Joy, 4361 Germantown Avenue, Philadelphia, will install the plumbing in the residence of L. Siebold at Wyoming Avenue and Front Street, Philadelphia. He also has the contract for plumbing at 4347 Germantown Avenue for Chas. A. Gassner.

T. J. Cunningham, 1612 Orthodox Street, Philadelphia, in addition to other contracts, will install the plumbing in the residence of Samuel Smith, 4661 Mulberry Street, Philadelphia.

S. Faith & Co., 2427 Pennsylvania Avenue, Philadelphia, will install the heating plant in the George School, West Philadelphia.

Contract for the additions and drainage systems in the properties of John Weidman, 1712-16 Dyre Street, Philadelphia, has been let to Geo. S. O'Connor, 4464 Richmond Street, Philadelphia.

Walters, Purks & Mellon, 1835 Ludlow Street, Philadelphia, have the contract to install the heating plant in the Martha Washington School, Forty-fourth and Aspen Streets, Philadelphia.

NEWS FROM OHIO.

Columbus.—Permission has been granted to Safety Director S. A. Kinnear, of Columbus, for the construction of a comfort station near the office of the American Sewer Pipe Co., at High and Naghten streets. Director Kinnear is seeking permission to erect temporary stations at the northwest and southeast corners of the state house grounds, but his plans have not yet been approved by the state officials.

Columbus.—Director Bargar has named Philip S. Dreher, 621 East Schiller street, Columbus, a deputy plumbing inspector in the office of the city plumbing department, to fill the vacancy caused by the death of Thomas H. Martin, May 27, 1912.

East Liverpool.—The Risinger Plumbing & Manufacturing Co. has been re-organized by the admittance to its company of Joseph G. Lee, formerly general superintendent of the Knowles, Taylor & Knowles Pottery Co., and now general manager of the Potters Mining & Milling Co. Mr. Lee has been elected treasurer of the company. The concern started in this city in a very modest way eight years ago as a plumbing and gas fitting concern, and later developed a most extensive gas fitting business. Today it is the largest concern of its character in the eastern part of Ohio. The company does a general plumbing, gas fitting and electric business, and also maintains a modern sample room for electric and gas showers, chandeliers and lighting glassware.

NEWS FROM NEW ENGLAND.

Massachusetts.

Fall River.—The American Plumbing & Heating Company, formerly conducted as a co-partnership by Christopher G. and James H. Gildard, has been incorporated under the same name. James H. Gildard is president and general manager, Christopher G. Gildard treasurer and Ella F. Gildard clerk.

Chicopee.—A new firm of plumbers and steamfitters has located at Chicopee Falls. P. J. Kennedy, for many years associated with P. J. Enright in the plumbing business, and J. S. Moriarty have opened a place of business at 156 East Main street.

Marlboro.—William H. Hill has the contract for plumbing the Wallace Nutting mansion at Framingham.

Lawrence.—Alderman Thomas J. Lynch, director of the department of public safety, has been obliged to give up his plumbing business in order that he may devote his entire time to city affairs. Since the first of the year Mr. Lynch has been able to give but little time to his business and has decided to retire from it entirely. He was located for many years at 415 Common street.

Brockton.—The bids for a steam heating system for the Howard school, to be placed in a separate building, were so high that the plan has practically been abandoned by the public property committee. The bids totalled about $20,000 for the entire work.

Marlboro.—A. B. Willard has the contract for installing steam heating in the residence of the Rev. Nellie Mann at Hopedale.

Milford.—The contract for plumbing and heating the Park schoolhouse has been awarded to Clark Ellis & Sons for $1,720.

Winthrop.—The town has voted an appropriation of $2,600, the greater part of which is to be used for the remodeling of the plumbing in the Highlands school.

Lawrence.—John Dolan, a well known local plumber, has just been discharged from the local hospital after having had his left leg amputated at the knee.

Leominster.—The receipts of numerous complaints as to unsatisfactory plumbing conditions has led the board of health to consider seriously the adoption of plumbing regulations. The state board has been asked to prepare a set of regulations for Leominster.

Boston.—In spite of the complaints of hot weather in Boston, it was so cold in one place in the city Monday night, July 15th, that a plumber had to be called to thaw out water pipes. This was a big clothing store, which maintains three bubbling drinking fountains. Some mischief-maker mixed salt with the ice that covered the coils and everything froze up.

Connecticut.

Bridgeport.—Horwitz Brothers have been awarded the contract for plumbing and heating a three family house to be erected on Kossuth street for Goldman & Shine. Frank Luciano is to do the plumbing, heating and tinning work on an apartment house on Church street for Vincent Aurilla. Greenwood & Neal are erecting six new houses on Hough avenue and have awarded the plumbing and heating contracts for them to N. B. Curtis & Co.

New Britain.—The Master Plumbers of this city appeared before the board of health recently when proposed changes in the method of examining plumbers was under consideration. The master plumbers want recognition on the board of examiners.

New Hampshire.

Derry.—T. A. Stewart has opened a plumbing establishment in the Smith block. Mr. Stewart has worked at the plumbing trade for L. M. Packer for the past eight years and is known as a first class workman.

OBITUARY.

Frank W. Foster.

Frank W. Foster, head of the F. W. Foster Manufacturing Co., of Boston, manufacturers of heating and ventilating apparatus, died at his home in Melrose, July 7. Mr. Foster was 50 years of age and a native of Topsfield, Me. He became a merchant at 17 and during his years in the heating and ventilating trade had invented many improvements in apparatus. He was a member of the Melrose board of aldermen for two years and was otherwise prominent in his home city. A widow and five children survive him.

Michael T. O'Brien.

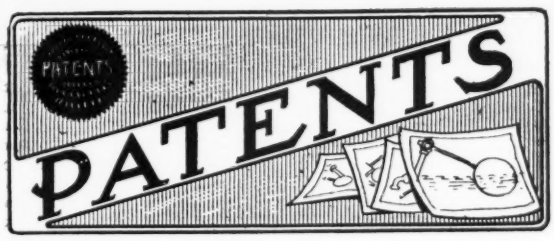
Michael T. O'Brien, 49, a Lenox, Mass., plumber, dropped dead of acute indigestion while in a drug store in Pittsfield on the morning of July 8. When he went to his place of business that morning he was not feeling well and went to the drug store to get something to relieve himself. He complained of severe pains in his chest and stomach. He had just asked the clerk for some indigestion medicine when he fell to the floor unconscious and he died a few moments later. Mr. O'Brien was a native of Lenox and had been a master plumber for a number of years. A widow and one son survive him.

George Mahl.

George Mahl, who had been in the plumbing business in Hartford, Conn., for 40 years, died in a hospital in that city July 6 of pneumonia. He was born in Norwich and was 64 years of age. At the time of his death he conducted a plumbing establishment at 1140 Main street, Hartford. In addition to his plumbing business Mr. Mahl was interested in real estate development and had helped in the development of many new sections of the city and erected many houses. A widow, four daughters and two sons survive.

A. D. Babcock.

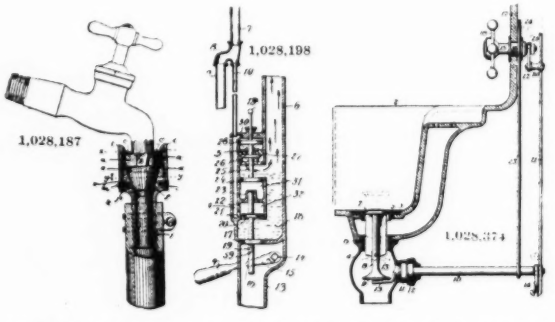
A. D. Babcock, who has for some time been in the service of Jas. M. Teahen, manufacturer of plumbing supplies, at Detroit, Mich., died at his home in that city on Monday, July 1st, in his 48th year. He was sick only two days. He had a large acquaintance in the plumbing trade who will regret to receive the intelligence of his early demise. A widow and two daughters survive him



Plumbing Department.

1,028,187. Hose-Coupling. Charles E. Campbell, Portland, Oregon, assignor to Simon S. Keim, Newberg, Oregon. In a hose coupling, a nipple-like male part affixed to the spout of a faucet, said nipple provided with a cone-shaped spout and further provided with oppositely located peripheral flanges spaced apart, the upper faces of said flanges formed with inclined planes, a gasket affixed on the spout of the male part directly under its said flanges, and a female part adapted to be inserted in a hose end and having a corresponding cone-shaped aperture, spring hook-members on the exterior of said female part in position to be inserted between and to engage with said inclined planes of the flanges of the male part.

1,028,198. Tank-Flushing Apparatus. William Dulles, Englewood, N. J. In tank flushing apparatus, a tank, a valve casing provided with an outlet pipe, a flushing pipe and an overflow pipe between said tank and said casing, a stand pipe communicating with a drain passage formed in said casing and connected to said overflow pipe to receive water therefrom, an inlet pipe in said casing, an inlet valve controlling the discharge from said inlet pipe,

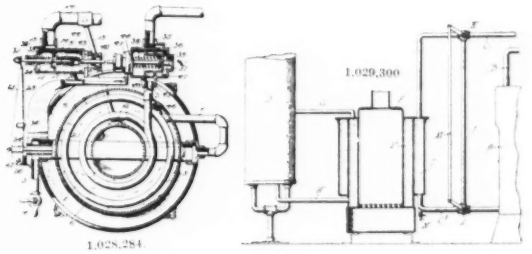


an inlet valve stem on which said inlet valve is mounted and a closing valve on said inlet valve stem and mounted in a closing chamber in said casing communicating with said drain passage to receive fluid therefrom and thereby close said inlet valve, a flushing valve in said casing controlling the discharge of water through said outlet pipe, a flushing valve stem on which said flushing valve is mounted and which is adapted to open said inlet valve, operating means to open said flushing valve and simultaneously supply water from said tank and said inlet pipe for flushing purposes, a retarding valve on said flushing valve stem and mounted within a retarding chamber in said casing, there being a drain port communicating with said drain passage to discharge fluid therefrom when said flushing valve is opened.

1,028,374. Sink or Basin Stopper. Peter J. McGuire, Wilkinsburg, and Howard J. Fronk, Monaca, Pa., assignors to United States Sanitary Manufacturing Co., Pittsburgh, Pa., a corporation of Pennsylvania. A closure for basins or sinks, comprising a stopper having a stem extending downwardly through the outlet from the basin, a crank shaft having a crank below said stem for raising the stopper, means for actuating the crank shaft, and an adjustable bearing for said shaft having an elongated slot for permitting such adjustment, and a screw passing through the slot for securing the link in its adjusted position; substantially as described.

1,028,284. Water-Heater. Edwin Ruud, Pittsburgh, Pa. In a water heater, the combination of a conduit for water under pressure, a burner for heating the water in said conduit, a valve controlling the flow of fuel to said burner, power mechanism in the form of two springs normally holding said valve closed, a device operated against the tension of one of said springs by the flow of water through said conduit, and a thermostat opening the said valve against the tension of the other of said springs when the temperature of the water is below a predetermined degree.

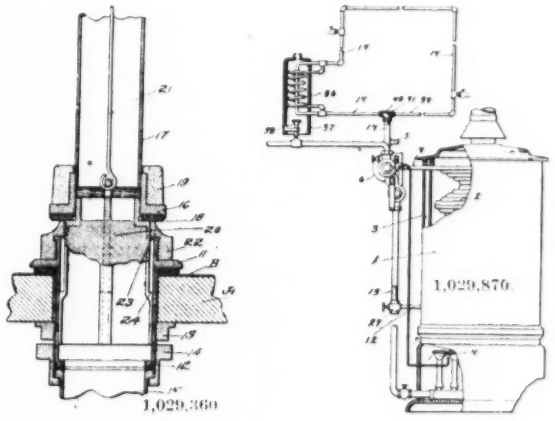
1,029,300. Water-Heater. William Henry Jones, Chicago, Ill. The combination of a main heating apparatus including a radiator and having circulating passages for heated fluid including a return passage from said radiator, a secondary heater having independent circulating pas-



sages including a water-heating chamber in heat-conductive relation with said return passage in the main heating apparatus, and a combustion chamber arranged to independently heat said water-heating chamber of the secondary heater.

1,029,360. Tank-Valve. David W. Gorman, Boston, Mass., assignor to F. W. Webb Manufacturing Co., Boston, Mass., a corporation of New Jersey. In a tank valve for water closets, the combination with a valve body secured to the bottom of the tank and having an upwardly projecting screw threaded flange, of a removable valve seat internally threaded and screwed onto said upwardly projecting flange on the valve body, said removable valve seat having an inwardly projecting flange at its upper side, an internally threaded movable valve member faced with elastic material to form a seat, and a guide located within the valve body and secured by screw threads to the movable valve member and comprising radial webs, the lower portion of said guide being of a diameter greater than the bore of the inwardly flanged portion of the removable valve member.

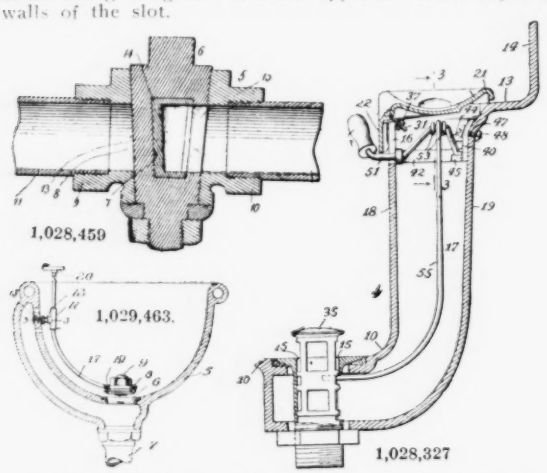
1,029,870. Water-Heater. Herbert S. Humphrey, Kalamazoo, Mich. The combination of a main water heater; a heating means therefor comprising a fuel valve; a delivery system for said main heater; a fuel valve actuating



member actuated by the drawing of water from said system to open the fuel valve, there being means for automatically closing the fuel valve when the drawing of water is discontinued; an auxiliary heater controlled independently of the said water actuated control means of the main heater and interposed in said system and connected to permit the water in said system to circulate therethrough without passing through said main heater;

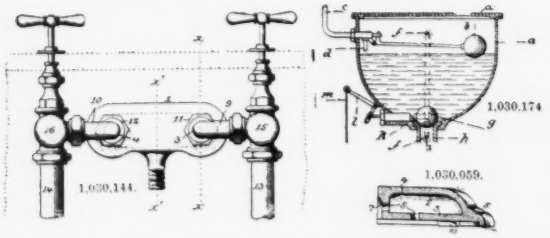
and means for directing the water passing from said main heater to said system through said auxiliary heater.

1,028,459. Stop-Cock. Harold P. F. Hedger, Waseca, Saskatchewan, Canada. In a stop cock, the combination with a casing having a bore therethrough; of a plug rotatably mounted in the casing, said plug having a transverse passage therethrough disposed to one side of its axial center and greater in height than the diameter of the bore, a one-piece rectangular inoxidizable lining fitted in said passage and having a slot extending vertically therethrough of an extent equal to the diameter of the bore and communicating with a similarly disposed drain slot in the narrow side of the plug at right angles to the passage and coextensive with the longitudinal center thereof, the inner faces of the top and bottom portions of the lining being flush with the upper and lower exposed walls of the slot.



1,029,463. Waste-Plug Lifter. H. Rottler, Raymonds, Ia. In combination, a basin having a drain opening and an opening in its wall, a split sleeve fitting in said wall opening and provided with gripping flanges on its inner end to engage said wall, a conical expander movable longitudinally in said split sleeve and provided with lateral projections, a nut threaded on said sleeve and adapted to engage the projections to move said expander in said sleeve and hold said sleeve in locked relation with said wall, a guide carried by said sleeve and a rod movable in said guide and carrying a stopper on its lower end adapted to close the drain-opening.

1,028,327. Lavatory. Edwin Enoch Carter, Warren, Ohio, assignor to The Day-Ward Co., Warren, Ohio, a corporation of Ohio. A basin having an overflow conduit with a rear wall and a bottom waste hole, a bracket, means for securing the bracket to the rear wall of the conduit, a yoke secured to the bracket and extending half way around the conduit, a crank journaled in the ends of the yoke, a waste plug adapted to fit the waste hole, and a connection between the waste plug and the crank, including a rod rigidly secured to the plug and loosely secured to the crank.

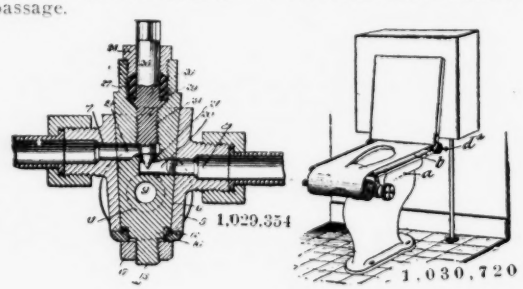


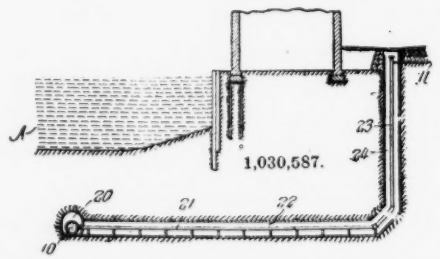
1,030,144. Water-Commingling Head. John J. Tyne, Chicago, Ill. In a commingling head for bath tubs, a single piece head formed with an elongated horizontal chamber, a pair of inlet orifices in inturned necks on the rear wall of said chamber adjacent to the ends thereof, and a depending discharge neck arranged centrally of the head and in a plane forward of the main body of the head, a pair of branch supply pipes adapted to pass through orifices in a vertical wall of a bath tub and screw into said orifices, and holding nuts mounted on said branch pipes, substantially as set forth.

1,030,174. Flushing-Tank. Hugo Hartmann, Berlin, Germany. The combination of a flush tank having an outlet leading from the bottom thereof, such outlet being formed with a valve seat, and all portions of the bottom of the tank sloping downwardly toward said seat, a free buoyant ball valve within the tank adapted to be held on said seat by hydrostatic pressure of water in the tank and also capable of floating in such water after removal from said seat, and a pusher movable within the tank horizontally above the valve seat and having an end operative against one side of said ball valve at a point above its seat to pry the valve from its seat by a movement of the valve diagonally in a direction upwardly and laterally and causing the buoyant valve to rise at one side of the tank.

1,030,059. Flush-Tank Cover. Samuel Drugan and John Schoenthaler, Trenton, N. J., assignors to Cochran, Drugan & Co., Trenton, N. J., a corporation of New Jersey. A hollow cover having top, bottom and rear walls integrally connected together, the bottom wall having a depending edge following the contour of the front and ends of the structure, and the rear wall having a portion of its surface cut away.

1,029,354. Faucet. Herman Forsman, Bakersfield, Cal. A faucet body having a central opening and two inlets and two outlets, leading thereto, a plug disposed in the central opening and having two transverse passages for simultaneously connecting the inlets with the outlets respectively, one of the transverse passages having two lateral branches for registering with one of the inlets, and one of the outlets respectively, there being a longitudinal opening in the plug leading to the last-mentioned transverse passage, between the lateral branches, and a valve member disposed for moving in the longitudinal opening for controlling the last-mentioned transverse passage.





1,030,720. Attachment for Water-Closet Seats. Charles de Quillfeldt, Amityville, N. Y. A toilet paper attachment for water-closet seats, comprising brackets at the rear-end of the seat, a rear-mandrel supported by said brackets and adapted to receive a roll of toilet-paper, brackets at the underside of the front part of the seat, a front mandrel supported by said front-brackets, means for applying the front end of the roll to the front mandrel, a button for turning the front-mandrel, means for locking the button to one of the front-brackets, and means for releasing the button therefrom for connecting a new roll to the front-mandrel.

1,030,587. High-Pressure Water-Distributing System. George W. Jackson, Chicago, Ill. A high pressure water system comprising a main tunnel located beneath a water way, and a high pressure main located in said tunnel.